

S.27.A.2.



28 SEP 1888

# Chester Society of Natural Science

(FOUNDED BY CHARLES KINGSLEY, - 1871.)

## FIFTEENTH ANNUAL REPORT

AND

STATEMENT OF ACCOUNTS,

FOR THE YEAR 1885-6.



CHESTER:

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCLXXXVI.

S. 27. A. 2.

# Chester Society of Natural Science

(Founded by Charles Kingsley, 1871.)

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## FIFTEENTH ANNUAL REPORT

AND

*STATEMENTS OF ACCOUNTS for 1885-86,*

AND THE

**LIST OF MEMBERS FOR 1886-87,**

ALSO

A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION.



CHESTER:

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

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MDCCCLXXXVI.

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ASTOR LENOX TILDEN FOUNDATION

500 N. 5TH ST. NEW YORK, N. Y.

1911

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# Officers and Committee for 1886-87.

## President :

PROF. T. McKENNY HUGHES, M.A., F.S.A., F.G.S., &c.

## Vice-Presidents :

HIS GRACE THE DUKE OF WESTMINSTER, K.G.  
THE RIGHT WORSHIPFUL THE MAYOR OF CHESTER.

A. O. WALKER, Esq., F.L.S.

W. M. DOBIE, Esq., M.D.

C. W. POTTS, Esq.

H. STOLTERFOTH, Esq., M.A., M.D.

T. SHEPHEARD, Esq., F.R.M.S.

## Officers of Sections :

### BOTANICAL.

CHAIRMAN—MR. J. PRICE, M.A. ... ..56, *Watergate Street*.

SECRETARY—MR. E. J. BAILLIE, F.L.S. ... ..*Woodbine, Eaton Road*.

### ZOOLOGICAL.

CHAIRMAN—MR. A. O. WALKER, F.L.S. ... ..*The Leadworks*.

SECRETARY—MR. T. SHEPHEARD, F.R.M.S....*Kingsley Lodge, Liverpool Road*.

### GEOLOGICAL.

CHAIRMAN—MR. SHRUBSOLE, F.G.S. ... ..*Town Hall Square*.

SECRETARY—MR. W. SHONE, F.G.S. ... ..*Upton Park*.

### NATURAL PHILOSOPHY.

CHAIRMAN—MR. G. WATMOUGH WEBSTER, F.C.S....5, *Eversley Park,*

SECRETARY—MR. W. F. LOWE, A.R.S.M., F.I.C., F.C.S....*Cambrian View, Liverpool Road*.

### MICROSCOPICAL.

CHAIRMAN—DR. STOLTERFOTH, M.A. ... ..60, *Watergate Street*.

SECRETARY—MR. J. D. SIDDALL ... ..*Eaton Road*.

## Hon. Curator :

MR. SHRUBSOLE, F.G.S., *Town Hall Square*.

## Hon. Treasurer :

MR. JOHN MILLS, 4, *Eastgate Row*.

## Hon. Secretaries :

SCIENTIFIC ... ..DR. STOLTERFOTH, M.A., 60, *Watergate Street*.

GENERAL ... { MR. G. R. GRIFFITH, 30, *Hough Green*.

{ MR. W. H. OKELL, 1 *Northgate Street*.

## Hon. Librarian :

MR. P. H. FLETCHER, *Woodbrae, Curzon Park*.

## Committee :

THE ABOVE OFFICERS, *Ex-Officio* ;

AND

MR. R. FARMER  
REV. A. H. FISH, B.A., B.Sc.  
MR. JOHN GRIFFITHS

MR. F. F. HICKMAN  
MR. M. JOHNSON, L.D.S.I.  
DR. H. W. KING, M.B.

## Hon. Auditors :

MR. J. ROWE DUTTON

MR. W. VINCENT

## Custodian :

MR. R. NEWSTEAD, *Museum, Grosvenor Street*.

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science*," and that its object be the promotion of the study of Natural Science, by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in the Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee, previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section may, on application, allow a Member to introduce more than one friend to their own Sectional Meeting.

8.—That any Member desirous to withdraw from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting, which shall be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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THE Chester Society of Natural Science has now been in existence fifteen years, and is on the whole in a prosperous condition. We have amongst us many who were with us from the first, and those who have joined us in later years have done much to further the interests of the Society, and are earnest supporters of its welfare. During the past year we have had to deplore the loss of one of our Vice-Presidents, DR. HOWSON; three of our distinguished Honorary Members: W. B. CARPENTER, Esq., M.D., F.R.S.; GEORGE BENTHAM, Esq., F.R.S., F.L.S.; and D. C. DAVIES, Esq., F.G.S.; and also our valued friend MR. C. F. FISH.

Your Committee must here express their deep sorrow at the loss of DR. HOWSON, one of our first Vice-Presidents, and one who was associated with the Society, and its Founder, from its earliest days. DR. HOWSON was Secretary to the Chester Museum of Natural History and Archæology, and took an active part in raising funds towards its completion. He was zealous in promoting all good works for the welfare of the citizens, and his kindly sympathy will be greatly missed by those who were associated with him in the promotion of Science and Art.

DR. CARPENTER's loss is one to be universally lamented, and our Society (many of whose Members had the pleasure of knowing him personally) were truly grieved to hear of his death.

It is our sad duty, also, to record the death of one whose life had for several years been closely connected with our Society. In MR. CHARLES FISH the Society has lost a Member to whose many-sided activity in its service it is scarcely possible to do justice. The example of his own ardent love for Nature, of his single-minded devotion to the Truth which Nature teaches, has of itself done much, during the years that he has been one of us, to promote the ends for which the Society was founded. Himself a constant and regular attendant at all meetings of the Society,

he was ever ready to contribute Papers or Lectures in the several Sections. Few who heard him will ever forget the pleasant and humorous manner which so attracted his audience, and the interest which his own enthusiasm, no less than his firm grasp of the subject, helped to inspire. His varied knowledge and practical wisdom made him an invaluable member of your Committee, while his genial disposition and singleness of purpose had greatly endeared him to all his colleagues. His death at the early age of 25, leaves a gap in the Society which it will be hard indeed to fill, but your Committee believe that the memory of his own earnest work, and his own high character, will ever live among those who knew him best (in this Society), and will bear their fruit in the furtherance of the aims to which so much of his short life was given, and in the increasing prosperity of the Society which he so greatly loved, and in whose service he laboured so untiringly.

We have elected forty-three, and lost by death and removal twenty-four, Ordinary Members.

The year 1886 will mark a crisis in the existence of the Society. Since the first formation of the Society we have had no permanent home in which to place our collections. Now, in the course of a few weeks, we shall have a Museum and place of meeting such as few of us ever expected. Most of you have seen the building now in course of erection. It is proposed that it shall be opened early in August. There is still, we regret to say, more than £1,500 to be collected before the structure is paid for, but your Committee hope that every effort will be made by our own Members, as well as other kind friends, to clear off this deficiency, so that we may enter our new premises free of debt. We must always remember that it was the great generosity of HIS GRACE THE DUKE OF WESTMINSTER, and other liberal subscribers, which enabled us to undertake a building of such magnitude: a building not only adapted to the various branches of study to be conducted under its roof, but eminently ornamental to the City, and a legacy to future Citizens who may wish to keep alive the love of Science and Art. The work of the Contractor, MR. GABBUTT, has been carried out under the superintendence of our able Architect, MR. LOCKWOOD, who has spared no pains to meet the varied requirements for which the whole building is designed. The



united Committees of the various Societies have met frequently, and a special Sub-Committee has met every week, to see that the work was properly carried out. Our thanks are certainly due to these gentlemen for what they have done, and their labours will perhaps be better appreciated when we enter on our occupation, and see the care that has been bestowed on the details of the structure.

Since our last Report, the third number of the Proceedings of our Society is in the hands of the Members, and contains most of the Papers of real local interest that were read, up to 1883.

Some of our Members have taken part in the dredging expeditions of the Liverpool Biological Committee, and it will be seen in the Report that is about to be published that there are Papers in it by some of our best workers.

The Chester School of Science, which is in part managed by our Committee, has on its books 135 Students; and the Classes have been carried on through the past winter under the following Teachers:—

INORGANIC CHEMISTRY .....	MR. W. F. LOWE
BOTANY .....	MR. J. D. SIDDALL
ANIMAL PHYSIOLOGY .....	MR. C. R. COWAP
STEAM .....	} MR. F. GARSIDE and MR. W. E. ARCHER
APPLIED MECHANICS .....	
MACHINE CONSTRUCTION AND DRAWING .....	
BUILDING CONSTRUCTION .....	

These Classes have been under great disadvantages, owing to the crowded state of the room in Lower Bridge Street, and also the want of proper appliances. All this it is hoped will be altered during the next Session.

The last May Examination was very satisfactory, and showed that the instruction given had been of a high order, and the application of the Students commendable. There is every probability that the coming Examination will show equally good results.

Our Hon. Treasurer, MR. MILLS, will read you the Balance Sheet of our Accounts, which we hope the Members will find satisfactory, for the powers of usefulness of a Society like ours must always largely depend on the careful management of its funds.

The Hon. Treasurer, MR. E. J. BAILLIE, will read you the Balance Sheet of the Kingsley Memorial Fund.

Our Library has been increased during the past year as far as our means have allowed us, and a list of New Books will be appended to this Report. The Library is in good order. For the information of our Members I may state that there is a complete copy of the "Challenger" Reports, as far as published, in the Reference Department of the Free Library, which is open to any one who will take the trouble to ask for them.

Our Hon. Curator, MR. SHRUBSOLE, will read you his Report on the state of the Museum.

The more immediate work and record of what the Society has done I will summarize under the following heads—

EXCURSIONS	GENERAL LECTURES
EVENING RAMBLES	SECTIONAL MEETINGS
CONVERSAZIONE	PRIZES

During the past summer there were seven field excursions, and the following places were visited—

May 21st .....	Cefn and Llangollen
June 23rd .....	Larkton Hill and Edge Hall
July 15th .....	Ellesmere
August 5th .....	Delamere Forest
August 28th.....	Glyn Ceiriog
Sept. 18th.....	The Caves at Tremeirchion
Nov. 11th .....	Loco. and Steel Works, Crewe

On the whole we were more fortunate in our weather for the excursions than in previous years, and although we had visited most of the places before, still we had by no means exhausted their Natural History treasures. Our Members, however, seem to prefer new localities, as there was a falling off of Members in this year's excursions. The visit to the Caves at Tremeirchion, under the guidance of our President, was a rich treat to the Geologists. We have again to thank both the leaders of the parties, and those who planned the excursions for the trouble they took in making arrangements. The owners of property who offered us facilities for passing over their grounds have our warm acknowledgments. The visit to the Crewe Works cannot be exactly called Natural History, still we must remember that we have a Natural Philosophy Section, which takes under its care many mechanical processes, and our

Members showed their appreciation of a visit to these Works by a good attendance. We have especially to thank the Managers of these Works for the facilities they afforded us in visiting all the departments.

The Evening Rambles were continued on the same plan as last year, and some of them were quite as largely attended as our more extended excursions, and perhaps more real work done. The Committee again hope to organize these during the summer.

The Annual *Conversazione* took place on the Evenings of the 7th and 8th of October. This was a new arrangement, and one that we hoped would offer more facilities to our Members for seeing thoroughly all the objects collected for the occasion.

On Wednesday Evening, the 7th, HIS GRACE THE DUKE OF WESTMINSTER presented the Kingsley Memorial Medal to MR. J. D. SIDDALL, and judging by the general applause which greeted his name, we are sure our Members felt that the highest honour our Society has to confer had fallen on a worthy recipient—one who has done much good original scientific work, and, as a teacher, inspired and promoted a love for the study of nature. This was followed by an address by SIR HENRY ROSCOE, F.R.S., who presented the Kingsley Memorial Prize to MR. R. NEWSTEAD for his collection of the Lepidoptera and Coleoptera of the district, as well as the Prizes and Certificates gained at the May Examination by the successful students of the Chester School of Science. There were, in addition, two short lectures by the REV. A. H. FISH, on the "Spectrum and Colour," and "Spectrum Analysis," in which he was assisted by MR. E. BINYON, from Owens' College, so that the first evening was one of varied interest.

On the Evening of Thursday, the 8th, the LORD BISHOP OF THE DIOCESE presided, and there were a number of short lectures given by Members of the Society—

DR. STOLTERFOTH....."On Diatoms and their fossil distribution."  
 MR. J. D. SIDDALL....."Foraminifera past and present."  
 MR. C. F. FISH....."A Day's Dredging on the Dee."  
 MR. SHONE, F.G.S....."On Local Geology."  
 MR. E. J. BAILLIE, F.L.S. .."Weeds of the way side."  
 MR. M. JOHNSON....."The Electric Light for the Microscope."

On both evenings the microscopes were arranged round the large Assembly Room of the Town Hall, instead of in the

Council Chamber. In some respects this was more convenient, and the heat from the lamps less felt. The general exhibits were quite up to the usual mark, and it is to be hoped that our Members appreciated the extension of the exhibition to two evenings, though, as a matter of course, this entailed much extra work on the Committee.

Our thanks are due most cordially to the late Mayor (C. BROWN, Esq.), for granting us the use of the Town Hall, and for the kind assistance he has always given to our Society.

During the past winter there have been seven General Meetings, at which the following Lectures were given—

1885.

Oct. 29—"The Chester Society of Natural Science and its Founder," by  
DR. WATERS.

Dec. 3—"Discovery of Stellar distances," by S. OKELL, Esq., F.R.A.S.  
1886.

Jan. 8—"Further observations on the Silurian Rocks of N. Wales," by  
PROF. T. MCKENNY HUGHES, F.S.A., *President*.

Jan. 28—"The Study of History," by H. R. REICHEL, Esq., M.A.  
(Principal of University College, North Wales).

Feb. 25—"The relation of Alchemy to Modern Chemistry," by J. J.  
DOBBIE, Esq., M.A., D.Sc. (Prof. of Chemistry in U. C.,  
North Wales).

Mar. 25—"The structure of Flowers," by R. W. PHILLIPS, Esq., B.A.,  
B.Sc. (Lecturer on Biology in U. C., North Wales).

April 29—Annual Meeting.

The subjects treated in these lectures have embraced a large field, dealing with general topics as well as the more minute particulars. They have been well attended and highly useful. The Committee feel themselves deeply grateful to the University College, Bangor, North Wales, for giving them an opportunity of becoming acquainted with those who are now carrying on the higher education in the Principality, and they feel sure that under such teaching the cause of education in Wales will prosper.

The Sections into which our Society is divided have met as follow—

1885.

#### ZOOLOGICAL SECTION.

Nov. 5—"Hilbre Island and its Zoology," by MR. C. F. FISH.

Dec. 17—"Review of past year," by MR. A. O. WALKER, *Chairman*.

1886.

Feb. 11—"Zoological notes and observations," by MR. W. THOMPSON.

April 1—"The migration of Birds, and how to distinguish some of our summer visitors," by MR. W. H. DOBIE, M.B.

1885.

# GEOLOGICAL SECTION.

Nov. 12—"On changes of Climate in the near Geological past, as evidenced by the fossil remains of Plants and Animals," by MR. W. SHONE, F.G.S., *Secretary*.

1886.

Feb. 18—"Volcanoes: their structure and products," by MR. W. H. OKELL.

April 8—"Geological Photography," by MR. OSMOND W. JEFFS (Liverpool Geological Association).

1885.

# NATURAL PHILOSOPHY SECTION.

Nov. 19—"Artificial Light," by the REV. ALBAN E. RAGG, M.A.

1886.

Feb. 4—"On some Meteorological Instruments and their use," by MR. G. W. WEBSTER, *Chairman*.

Mar. 4—"Extraction of Ammonia from coal and furnace gases," by MR. T. E. PYE.

April 15—"Some familiar Foods, and how they are adulterated," by MR. W. F. LOWE, A.R.S.M., *Secretary*.

1885.

# BOTANICAL SECTION.

Dec. 10—"First Introductions," by MR. J. PRICE, M.A., *Chairman*.

1886.

Jan. 14—"Alternation of generations in the Vegetable Kingdom, as illustrated by some Thallophytes," by MR. E. HAMILTON ACTON, B.A. (St. John's College, Cambridge).

Mar. 18—"Notes on local Botany," by MR. C. F. FISH.

1886.

# MICROSCOPICAL SECTION.

Jan. 21—"On the Polishing-slate of Archangelsk-Kurojedows, Simbirsk, Russia, 1885," by DR. OTTO N. WITT (translated from the German, and read by the *Chairman*, DR. STOLTERFOTH).

Mar. 11—"Foraminifera of the River Wyre," by MR. J. D. SIDDALL, *Secretary*.

April 22—Conversational Evening. "On Pond Life: where to find and how to show examples."

The Sections have met regularly through the past winter, and it will be seen that we have secured four additional Members who have come forward for the first time with Papers. Some of the Sectional Meetings have been well attended, and on the whole the quality of the Papers has been good.

Your Committee have met frequently during the past year, and much troublesome business has had to be gone through in order to retain a place for our Collections, and the use of the Rooms in Lower Bridge Street, till we move into the New Buildings. This has been done, though at some inconvenience, in order to prevent two removals which would have increased our expenses. The Committee trust that their arrangements have met with the approval of the Members. In all things their wish is for the general prosperity of the Society, and to promote the love and study of Natural Science.

Your Committee cannot close this Report without saying that they consider the present time as a very fit one to appeal to all our own Members and friends for contributions to the New Museum, remembering always that our Museum is a local one, and for the display of *local objects*. With improved surroundings and a new building, the Society may anticipate a new lease of life. A large accession of new Members would be very encouraging, and though our subscription is small, only 5/- per annum, still we have so far kept clear of debt, and we may hope that under new conditions we shall be equally fortunate.

HENRY STOLTERFOTH, M.A., M.D.,  
*Scientific Secretary.*

## CURATOR'S REPORT FOR 1885-86.

There has been received, on behalf of the Museum, a group of Gwyniads from Bala Lake, in an elegant glass case, the gift of SIR WATKIN WILLIAMS WYNN, Bart.

DR. HICKS, F.G.S., and J. B. LUXMOORE, Esq., of St. Asaph, have bestowed much time on a scientific exploration of the Tremeirchion Bone Caves, and have generously given to our Museum a share of the valuable results, for which the Society returns hearty thanks.

We are also indebted to the following Gentlemen for donations of Fish, Birds, or Insects—MR. A. O. WALKER, MR. ARTHUR POTTS, MR. F. A. WALKER, MR. E. J. BAILLIE, DR. W. H. DOBIE, MR. HENRY THOMAS, MR. SHRUBSOLE; and for Marine objects to DR. HENRY THOMAS.

GEORGE W. SHRUBSOLE.

CHESTER, APRIL 29, 1886.

The Hon. Treasurer in Account with the Chester Society of Natural Science,  
for the Year 1885-86.

Dr.	£	s.	d.	£	s.	d.	Cr.	£	s.	d.
By Subscriptions—							To Balance from 1884-85	..	..	8 19 10
1 for 1883-84	..	..	0 5 0				" Rent of Albion Rooms	..	..	30 0 0
6 " 1884-85	..	..	1 10 0				" Repairs	..	..	0 6 7
490 " 1885-86	..	..	122 10 0				" Furniture and Fittings	..	..	0 4 3
				124	5	0	" Cleaning and Attendance..	..	..	10 8 5
" Balance from Evening Meetings' Account	..	..		0	19	10	" Library—New Books, &c.	..	..	6 15 9
" Balance from Excursion Account	..	..		3	3	2	" Museum	..	..	5 2 9
" Sale of Society's Proceedings, &c.	..	..		1	2	0	" Coal, Gas, Lamps, &c.	..	..	9 6 3
" Sale of Library Catalogues	..	..		0	1	1	" Printing, Stationery, &c.	..	..	44 15 0
" Repaid by Archæological Society for pro-	..	..					" Postages	..	..	15 4 9
portion of Coal, Gas, Repairs, &c.	..	..		4	0	0	" Subscription to Palæontographical Society	..	..	1 1 0
Balance due to Treasurer	..	..		1	3	6	" Fire Insurance	..	..	2 10 0
				£134	14	7				£134 14 7

June 30th, 1886—Examined and found correct, showing a balance due to the Treasurer of  
*One Pound Three Shillings and Sixpence,*

JOHN MILLS,  
HON. TREASURER.

J. ROWE DUTTON, }  
W. VINCENT, }  
AUDITORS.

# “KINGSLEY” MEMORIAL FUND.

## STATEMENT OF ACCOUNTS for the Year ended 30th April, 1886.

Dr.	£ s. d.	Cr.	£ s. d.
To Balance .. ..	92 10 9	By Mr. Robert Morgan, Artist, for Illustrations for “Transactions” .. ..	19 1 4
” G.W.R. Dividends .. ..	15 19 7	” Mr. G. R. Griffith, Printer, for 350 Copies of ditto, as per Estimate and Account .. ..	40 14 9
” Bankers’ Interest .. ..	1 7 7	” Wrappers, and Expenses in connection with distribution of ditto .. ..	1 0 7
” Proceeds—Sale of “Transactions” to date .. ..	7 10 11	” Printing Notices .. ..	0 4 6
		” Advertising Prizes, &c. .. ..	2 10 6
		” Painting Names on Notice Board .. ..	0 7 8
		” Prize awarded to Mr. Newstead .. ..	5 0 0
		Balance in Bank .. ..	48 9 6
	<u>£117 8 10</u>		<u>£117 8 10</u>

*Examined and found correct,*

W. VINCENT,  
HON. AUDITOR.

EDMUND J. BAILLIE,  
HON. TREASURER.



## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers :—

### 1886.

A PRIZE of TEN POUNDS for the best collection of "BEES AND WASPS collected in the SOCIETY'S DISTRICT."

### 1887.

A PRIZE of TEN POUNDS for the best Essay on the "PHYSIOGRAPHY OF THE SOCIETY'S DISTRICT" (on the lines of PROFESSOR HUXLEY'S Physiography.)

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In addition to the above Prizes, the Committee have decided that in order to encourage scientific research, they will make grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS or ESSAYS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

The Essays or Collections may be sent in to the General Secretaries at any time, and the awards will be made at the *Conversazione* next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections or Essays, or any part of them, for the Society.

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*Intending Competitors should obtain all particulars, and the conditions under which the Prizes are offered, from the Secretary, MR. G. R. GRIFFITH, Grosvenor Street, Chester; and all Collections or Essays must be sent in to him on or before the 1st September in each year.*

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The Prizes will be awarded at the Annual *Conversazione*.

## SOCIETIES ASSOCIATED,


WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

- 
- Academia Nacional de Ciencias De La Republica  
 Argentina, Cordoba.  
 Barrow Naturalist's Field Club.  
 Brighton and Sussex Natural History Society.  
 Bristol Naturalists' Society.  
 Burnley Literary and Scientific Club.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society  
 and Field Club.  
 Epping Forest and County of Essex Naturalists' Field  
 Club.  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 Leeds Naturalists' Club.  
 Liverpool Geological Association.  
 Liverpool Geological Society.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club.  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Scientific Students' Association.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæo-  
 logical Society.  
 Nottingham Naturalists' Society.  
 Postal Microscopical Society.  
 Quekett Microscopical Club.  
 Rochdale Field Naturalists' Society.  
 Smithsonian Institution, Washington, D.C.  
 United States Geological Survey.  
 Wigan Literary and Scientific Society.




## NOTICE.

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 THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, MR. JOHN MILLS, Chemist, Eastgate Row.

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 To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.

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## LIST OF MEMBERS.

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*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

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Acheson, Rev. J. H., M.A.	....	Cambrian View
*Acton, Mr. T. Bennion	.....	Grove road, Wrexham
Alletson, Mr. W.	.....	Oakenholt, Flint
Appleton, Mr. John	.....	9 Lorne street
Arkle, Mr.	.....	Diocesan Schools, George street
Ayrton, Mrs	.....	Abbot's Rock, 31 Liverpool road
*Baillie, Mr. E. J., F.L.S.	.....	Woodbine, Eaton road
Baillie, Mrs. E. J.	.....	" "
Baker, Mr. W. S., L.D.S.I.	....	6 Pepper street
Baker, Mrs.	.....	The Station, Holywell
Baker, Miss	.....	48 Bridge street
Barker Miss	.....	150 Boughton
Barker, Mr. A.	.....	6 Abbey street
Barlow, Miss M.	.....	Beach House, Colwyn Bay
Barnacle, Rev. H. G.	.....	The Vicarage, Holmes Chapel, Crewe, R.S.O.
Barnes, Rev. F., B.A.	.....	Hope Villa, Raymond street
Baxter, Mr. Geo.	.....	47 Queen street
Beckett, Mr. J.	.....	71 Bridge street row
*Bedford, Rev. J.L., M.A., F.L.S.	...	10 Abbey square
Bedford, Mrs.	.....	" "
Bernard, Mr. John	.....	17 City walls
Birch, Mr. H. J.	.....	Corville, Liverpool road
Birch, Miss	.....	18 Upper Northgate street
Blayney, Mr. A.	.....	2 City Walls, W.
Blayney, Mrs. A.	.....	" "

Bleazard, Mr. Marmaduke	.....	Pulford, near Wrexham
Blogg, Rev. H. B., M.A.	.....	The Vicarage, Frodsham
Blomfield, Capt., R.N.	.....	{ @ Messrs. Woodhead & Co., 44 Charing Cross, London
Blower, Mr. T. B.	.....	6 The Groves
Blower, Mr. W.	.....	4 Williams' terrace, Hoole, Chester
Boddington, Miss Lily	.....	15 The Groves
Bolland, Mr. Wm.	.....	23 Hough Green
Bonnalie, Mr. G., L.D.S., R.C.S.E.	.....	4 Abbey square
Borwick, Rev. R. P.	.....	Frodsham, near Chester
Bowers, Mr. H. R.	.....	Abbot's Lodge, Liverpool road
Bowers, Mrs. H. R.	.....	
Boyson, Miss Annie H.	.....	{ Grove House, Larkhall Rise, Clapham, London, S.W.
Brassey, Miss	.....	127 Boughton
Brayshaw, Mr. E. C.	.....	4 Crane street
Brewer, Miss E.	.....	15 Paradise row
Brown, Miss	.....	144 Boughton
Brown, Mr. C.	.....	The Folly, Flookersbrook
Brown, Miss L. E.	.....	" "
Brown, Mr. W.	.....	18 Curzon Park
Brown, Mr. F. F., M.A.	.....	" "
Bryans, Rev. W., M.A.	.....	The Vicarage, Tarvin
*Buckler, Rev. J. F., M.A.	.....	Bidston Rectory, near Birkenhead
Buckley, Mr. Wm. Ireland, F.R.G.S.	.....	The Academy, Winsford, Cheshire
Bullin, Mr. F., J.P., L.D.S., R.C.S.	.....	22 Nicholas street
Butt, Miss	.....	8 Curzon Park
Butte, Miss	.....	7 Short place, Garden lane
Campbell, Rev. E. A. Pitcairn, M.A., J.P.	.....	Vicar's Cross
Carrington, Mr. A.	.....	12 White Friars
Cartwright, Mr. T.	.....	Bridge street
Cartwright, Mr. S.	.....	Bridge street row (W.)
Catherall, Mr. T.	.....	Holly Bank, Queen's Park
Chapman, Mr. F. W.	.....	40 Tarvin road
Chester, The Right Rev. The Lord Bishop of...	.....	The Palace, Dee Side
Clayton, Mr. Albert	.....	38 Hough Green
Clough, Miss	.....	Boughton House
Clough, Miss Lily	.....	" "
Clough, Mr. G. F.	.....	" "
Coe, Mr. D.	.....	26 Lightfoot street, Bishopfields
Connah, Mr. Jas.	.....	The Laboratory, Somerset House, London (W.C.)
*Connor, Mr. Rochfort	.....	Inland Revenue Office, Greenock, N.B.
Coppack, Mr. Chas.	.....	Derby Cottage, 107 Garden lane
Cordery, Mr. J.	.....	6 Albion street (West)
Cordery, Miss C.	.....	79 Boughton
*Cowap, Mr. C. R.	.....	14 Crescent, Cambrian view
Cox, Rev. H., M.A.	.....	Abbot's Grange, Liverpool road
*Cribb, Mr. F. J.	.....	35 Bouverie street
Darby, Very Rev. J. L., D.D.	.....	The Deanery
Davey, Mr.	.....	3 Brighton terrace
Davey, Mrs.	.....	" "
Davies-Colley, Dr. T., J.P.	.....	Newton Cottage, near Chester
Davies-Colley, Miss E. C.	.....	" "
Davies, Mr. J.	.....	19 Francis street

Davies, Mr. John.....	Parr's Banking Co., Limited, Eastgate street
Davies, Mr. J. P. ....	75 Crane street
Davies, Miss .....	1 Victor street, Boughton
Davies, Miss Effie.....	Cedar bank, Liverpool road
Davies, Miss Ida .....	"
Davies, Mr. John .....	6 Victoria pathway, Queen's park
Dearden, Mr. G. K. ....	20 Eaton Villas, Eaton road
Denson, Mr. W.....	21 Upper Northgate street
Denson, Mrs. W .....	" " "
Denson, Miss Adelaide .....	" " "
Denson, Mr. J. Lyon .....	" " "
Denson, Mr. T. F. ....	8 Church street
Denson, Mrs. T. F. ....	"
Dickson, Mr. F. A., J.P. ....	Fern Rock, Queen's park
Dickson, Mrs. F. A.....	" " "
Dickson, Miss A. ....	"
Dickson, Mrs. George A.....	Springfield, Flookersbrook
Dickson, Miss Lavinia .....	"
Dickson, Mr. Jas. ....	Brookfield House, Chester
Dickson, Mr. W. A.....	Newton Villa, Chester
Dickson, Mr. S. J. R. ....	Mayfield House, Hoole
*Dobie, Dr. W. M.....	23 Upper Northgate street
Dobie, Miss .....	"
*Dobie, Dr. W. H .....	22 Upper Northgate street
Dod, Rev. C. Wolley, M.A. ....	Edge Hall, Malpas, Chester
Dod, Miss Wolley .....	" " "
Dodd, Mr. W. ....	143 St. Anne street
Drury, Mrs. ....	Abbot's field, Liverpool road
Drury, Mr. R .....	"
Dugdale, Mr. John .....	Spital field, Boughton
Duncan, Mr. C. W. ....	Arnold House
Dutton, Mr. J. Rowe .....	24 Nicholas street
Dutton, Mr. George .....	13 Curzon park
Dutton, Mrs. ....	"
Dutton, Mrs. G. W .....	15 Curzon park
Dutton, Mr. H. B. ....	6 St. John's road, Queen's park
Dutton, Mr. F. V. ....	9 Eaton road
*Edwards, Mr. J. W. P. ....	133 Boughton
Edwards, Mrs. J. W. P. ....	"
Edwards, Mr. J. E. ....	Abbot's Mount, Liverpool road
Edwards, Mr. J. ....	74 Foregate street
Elliott, Mr. Joseph .....	Bouverie street
Elphick, Mr. Pelham .....	Croughton Lodge, Chester
Enock, Mr. C. R. ....	Parkgate road
Enock, Mrs. C. R. ....	"
Evans-Lloyd, Colonel .....	Stanley House, Chester
Evans, Mr. R. ....	Cambrian view
Evans Miss .....	Eversley House, Eversley park, L'pool road
Ewen, Mr. J. E. ....	Eccleston, near Chester
Ewen, Miss.....	" "
Farmer, Mr. Richard .....	Brierley, Brook lane
Farmer, Mrs .....	"
Farrimond, Mr. F. T. ....	Sunnyside, Boughton
Feilden, Miss .....	Mollington Hall, Chester
Fenton, Mr. T. J. O'C.....	Fairclough lane, Birkenhead
Ffoulkes, His Honor Judge Wynne, M.A..	Upper Northgate street

Foulkes, Mr. Thomas B., Junr.	42 Burlington road, Ipswich
Finchett, Mr. W. H.	Savings' Bank, Grosvenor street
Firth, Mr. N. C.	125 Foregate street
Fish, Mrs.	8 Dee Villas, Sealand road
*Fish, Rev. A. H., B.A., B.Sc. (Lond.)	Arnold House School, Parkgate road
Fleet, Mr. H.	76 Lower Bridge street
*Fletcher, Mr. P. H.	Woodbrae, Curzon Park
Fletcher, Mrs. P. H.	" "
Fletcher, Miss	" "
Fluitt, Miss	Grey friars
Frater, Mr. G.	3 Lorne street
Frater, Mr. Jas.	" "
Frost, Sir Thomas G., J.P.	Redcliff, Queen's park
Frost, Lady	" "
Frost, Mr. J. M.	Dee Lodge
Frost, Mr. F. Aylmer	Meadows Lea, Mold
Gardner, Mrs. W. A.	Redland House, Hough Green
Gardner, Mr. E. W. R.	" "
Garnett, Mr. W.	Bridge street row
Gibson, Mr. J. M.	Buckley, <i>via</i> Chester
Gilbert, Mr. Leonard, J.P.	Egerton Villa, Liverpool road
*Giles, Rev. W. T., M.A.	Netherleigh House, Eaton road
Giles, Mr. Hammond	Brook lodge, Brook lane
Glascodyne, Miss	The Queen's School, City walls
Golder, Mr. S.	Curzon Park
Golder, Mr. J. T.	" "
Gordon, Miss Anna	4 Tarvin road
Gorst, Miss	Spring villa, Liverpool road
Graham, Mr. Jas.	King street
Graham, Mrs.	" "
*Granger, Mr. F. M., M.R.C.S., L.R.C.P.L.	18 Nicholas street
Grantham, Rev. H.	St. Mary's Rectory, Chester
Green, Mr. T. E.	26 St Martin's-in-the-fields
Green, Mr. B. W.	Bridgegate House
Gregg, Mr. W.	2 Watergate Square
Griffith, Mr. G. R.	30 Hough green
Griffith, Mrs. G. R.	" "
Griffith, Miss	" "
Griffith, Mr. N. de B.	" "
Griffiths, Mr. Jno.	4 Exton park, Parkgate road
Griffiths, Mrs. John	" "
Griffiths, Mr. T. W.	5 Hough Green
Griffiths, Mr. John	3 Hawthorn Villas, Hoole road
Griffiths, Miss	" " "
Griffiths, Mr. T. Turner, B.A.	" " "
*Grocott, Mr. E. A.	21 White Friars
Gunton, Miss	Rimmersfield, Liverpool road
Haining, Dr W.	82 Foregate street
*Hall, Mr J. H. A.	Old Bank House
Hall, Mrs.	" "
Hamel, Miss	59 Watergate street
Hamilton, Mr. A., M.R.C.S.	16 White friars
Hankey, Mr. Lee	Rock Mount, Liverpool road
Hankey, Miss C. M.	" " "

Hann, Mr. C. E. ....	Eaton Gardens, Chester
Hardy, Mr. J. E. ....	The Blue School, The Northgate
Harrison, Mrs. Jno. ....	Ashton House, New Crane street
Henderson, Mr. J. E. ....	19 Pathway, Queen's park
Henderson, Mr. J. W. ....	" "
Henshaw, Mr. T. ....	Edgbaston Villa, Brook lane
Henshaw, Miss Florence M. ....	" "
Heppel, Miss. ....	2 Exton park
Herne, Colonel ....	Delamere House, Liverpool road
Hewitt, Mr. David L. ....	Abbey House, Northgate street
Hickman, Mr. F. F. ....	8 Northgate street
Hickman, Miss ....	17 The Groves
Higgins, Miss Eva ....	The Manor, Overleigh
Higgins, Miss Millie. ....	" "
Higgins, Mr. W. H. ....	St. Martin's-in-the-fields
Hillyard, Rev. Canon, M.A. ....	Oakford, Tiverton
Hincks, Mr. J. W. ....	61 Northgate street
Hobday, Mr. J. ....	Alexandra villa, Liverpool road
Hobday, Mr. E. ....	" "
*Hodges, Mr. W. ....	31 Hough green
Holdich Miss ....	The Queen's School, City walls
*Holland, Mr. R. ....	Mill Bank House, Frodsham
Hollingworth, Miss Francis ....	11 The Groves
Holme, Rev. A. P., M.A. ....	Tattenhall
Holmes, Mr. J. G. ....	Curzon park
Hoole, Rev. W. Spooner, M.A. ....	Rectory, Thornton-le-Moors, near Chester
Hopkins, Mrs. ....	Meonville, Cambrian view
Horabin, Mr. T. ....	16 Newgate street
Hostage, Mr. Geo. B. ....	Edgar House, City walls
Hostage, Mrs. G. B. ....	" "
Howson, Miss ....	Egerton House, Upper Northgate street
Howson, Miss M. ....	" "
Hudson, Mrs. R. S. ....	Bache Hall, Chester " "
Hughes, Mrs. McKenny ....	4 Cintra terrace, Cambridge
Hughes, Mr. T., F.S.A. ....	Grove terrace, The Groves
Hughes, Mr. Thos. Cann, B.A. ....	" "
*Hughes, His Honour Judge ....	Uffington House, Dee hills
Hughes, Mrs. ....	" "
Huke, Mr. J. W. ....	89 Foregate street " "
Humberston, Miss ....	Newton Hall, Chester
Jackson, Miss ....	21 Hough green
Jacob, Rev. Joseph ....	Whitewell Rectory, Whitchurch (Salop)
*Jebb, Mr. G. R., C.E. ....	The Laurels, Shrewsbury
*Jeffs, Mr. O. W. ....	8 Queen's road, Rock Ferry
Jefferson, Miss ....	38 Bridge street
Jephcott, Mr. Charles ....	13 Lorne street (North)
Jewell, Rev. F. ....	19 Raymond street
Johnson, Major ....	34 King street
Johnson, Mrs. ....	11 Bertram road, Sefton park, Liverpool
Johnson, Mr. W. ....	29 George street
Johnson, Mr. ....	St. Paul's School, Boughton
*Johnson, Mr. M., L.D.S.I. ....	9 York villas, Lorne street
Jones, Mr. T. Broadhurst ....	The Cross
Jones, Miss Maggie ....	1 King's buildings
Jones, Mr. H. Watson ....	11 Grosvenor park road
Jones, Miss S. H. ....	Kingston House, Liverpool road



Jones, Mr. A. W. .... 21 Seller street  
 Jones, Mrs. A. W. .... " "

Keartland, Miss ..... 2 Egerton terrace, Hoole road  
 Keeling, Miss Alice ..... 18 Upper Northgate street  
 Kelly, Miss Nellie ..... Trinity street  
 Kenyon, Dr. .... Flookersbrook  
 King, Dr. .... 18 Newgate street  
 King, Miss Edith F. .... " "  
 Kingsley, Miss ..... Tachbrook Mallory, Leamington  
 Kingsley, Mr. G. A. .... " " "  
 Kirkpatrick, Mrs. .... Ash Grove

Lacy, Mrs. .... Moor Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. S. .... " "  
 Lamont, Miss T. .... " "  
 Latham, Mr. J. S. .... Green bank, Liverpool road  
 \*Lawrence, Dr. A. .... The Asylum, Chester  
 Laycock, Mr. Alfred ..... 12 Linenhall street  
 Lees, Dr. .... General Infirmary  
 Leigh, Mr. Tim. .... 22 Newgate street  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lindsay, H. B., Esq. .... 13 Charles street, Berkeley square, London  
 Linton, Rev. H., M.A. .... The Abbey, Birkenhead  
 Lipsham, Mr. F. .... 109 Eastgate street  
 Lloyd, His Honor Judge Horatio.. 3 Sandown terrace  
 Lloyd, Mrs. Horatio ..... " "  
 Lloyd, Mrs. E. .... 24 Eaton road  
 Lloyd, Miss M. E. .... 20 Lorne street  
 Lockwood, Mr. T. M. .... 80 Foregate street  
 Lowe, Mr. G. B. .... 25 Hough Green  
 Lowe, Miss C. H. .... " "  
 \*Lowe, Mr. W. F., A.R.S.M., } 21 Granville road, Cambrian view  
     F.I.C., F.C.S. .... }  
 Lowe, Mrs. W. F., .... " " "  
 Lowe, Mr. Jas. F., B.A. .... Dee Banks  
 \*Lucas, Mr. A. W., F.R.G.S .... 7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Luxmoore, Mr. E. B., J.P. .... Bryn-Asaph, St. Asaph

Macdonald, Mr. G. .... 67 Bouverie street  
 Major, Mrs. .... 40 Tarvin road  
 Manley, Mr. H. .... Aston, Nantwich  
 \*Manning, Mr. J. B. .... The Governor's House, H.M. Prison, Wakefield  
 Manning, Miss Edith ..... 18 Upper Northgate street  
 Marsden, Miss ..... 6 Grosvenor park road  
 Marsden, Miss E. .... " "  
 Massie, Admiral ..... 3 Stanley place  
 Massy, Miss ..... Mansfield lodge, Hough green  
 McBride, Mr Chas. .... Barr's Gate street, Boughton  
 McEwen, Mrs ..... 26 Nicholas street  
 \*McKerchar, Mr. J. .... 35 Giesbach rd., Upper Holloway, London, N.

Milligan, Miss Janet	Sealand
*Mills, Mr. J.	4 Eastgate row
Mills, Mrs. J.	" "
*Miln, Mr. G. P.	106 Eastgate street
Minshull, Mr. E.	The Northgate
Montgomery, Rev. J. K.	Abbot's villas, Liverpool road
Moreton, Mr. J. E., F.R.C.S.	Tarvin
Moreton, Mrs.	" "
Morris, The Rev. Canon, D.D.	Eaton, Chester
Morton, Mr. G.	Dodleston, near Wrexham
Mowle, Mr. J. A.	The Cedars, Hoole
Mulhern, Mr. R.	45 Frodsham street
Munns, Mr. J.	10 Pepper street
Newell, Mr. A. Thurman	Stafford House, Bridge street row
Newstead, Mr. R.	Museum, Grosvenor street
Nicholson, Mr. J. M.	Dee Hills, Chester
Nutt, Mr. Geo.	Christ Church Boys' School
*Okell, Mr. W. H.	1 Northgate street
*Okell, Mr. E. W.	22 Northgate street
Okell, Miss	6 Curzon park
Okell, Miss M. H.	" "
Okell, Mr. P. H.	The Cross "
Oldfield, Mrs.	68 Northgate street
Oldfield, Miss	Bryn Clwyd, St. Asaph
Orrett, Mr. Arthur	8 Cambrian view
Orton, Mr. R. O., J.P.	Tattenhall
Owen, Miss Bessie	18 Queen street
Owen, Miss	10 Stanley place
Palin, Mr. Frank	11 King street
Palin, Mr. G. F.	" "
Paris, Mr. Alfred	Northgate street
Parkes, Mr. A.	Curzon park
Parkes, Mrs. A.	" "
Parkes, Mr. A. M.	St. John's College, Oxford
Parry, Mr. C.	104 Brook street
Parry, Mrs. C.	" "
Parry, Mr. Gilbert	Farndon Hall, Chester
Parry, Mr. Silvester	Raymond House, Raymond street
*Parry, Mr. T. S., M.B.	Upper Northgate street
Phillipson, Mr. J.	12 Liverpool road
Pinches, Mr. Richard	20 Newgate street
Podmore, Miss	3 Eastern pathway, Queen's park
Porter, Mrs.	Crowthorne, Childer Thornton
Potts, Mr. C. W.	Heron bridge
Potts, Capt. H. J.	Glanrafon, Mold
Potts, Mr. J.	Thorn Tree House, Chester road, Macclesfield
Powell, Mr. E.	Eastgate Row
Powell, Mrs.	Springfield, Neston
Preston, Rev. G., M.A.	Abbey Square
Price, Rev. Elis	56 Watergate street
Price, Mr. Paul	Bryntirion, Chichester street
Price, Mr. Warmsley	The Studio, Bridge street row
Price, Mrs. Warmsley	" "

- Prichard, Mr. Geo. .... 10 St. John's road, Queen's park  
 Prichard, Miss ..... " " "  
 Puget, Miss Louisa Du. .... Fernville, Curzon park  
 Pye, Mr. Jas ..... Clovelly House, Eversley park  
 \*Pye, Mr. T. E. .... Gas Works, Ellesmere, Salop
- \*Ragg, Rev. Alban E., M.A. .... Brook Lane  
 Raingill, Mrs. .... Queen's park  
 \*Ramsden, Mr. W. .... *Cheshire Observer*, Eastgate row (North)  
 Ratford, Mr. Herbert ..... The Blue School  
 Rayner, Miss ..... Ash grove, Wrexham road  
 Ray, Miss ..... 3 Eastern pathway, Queen's park  
 Reilly, Mr. Owen ..... 1 Abbey green  
 Reilly, Mrs. Owen ..... " "  
 Rhodes, Mrs ..... York villas, Liverpool road  
 \*Riches, Mr. J. T ..... Spring cottage, Dee banks  
 Richmond, Mr. G. B. .... *Courant Office*, Northgate street  
 Ridehalgh, Mr. George ..... 5 Lumley road  
 Roberts, Mr. J. .... 15 Bridge place  
 Roberts, Miss ..... Bank Cottage, Neston  
 Roberts, Miss Annie ..... 14 Stanley place  
 Roberts, Miss M. .... 8 Nicholas street  
 Roberts, Dr. .... 8 Abbey square  
 Rogers, Mr. Jno. .... 3 Upper Park place, Richmond Hill, Surrey  
 Rogers, Mr. W. .... Watergate House  
 Rogerson, Mr. G. H. .... 4 Nicholas street  
 Rowland, Mr. J. .... Pulford, near Wrexham  
 Royle, Mrs. T. V. .... Dingle Bank  
 Royle, Mr. T. R. P. .... Hough Green House  
 Royle, Mrs. T. R. P. .... " "  
 Rush, Mr. E. .... 27 Foregate street
- Salisbury, Miss E. A. .... 12 Lorne street  
 Salt, Mr. Harry S. .... 61 Garden lane  
 Sant, Mr. T. .... Frodsham  
 Schröder, Mr. .... 22 Chichester street  
 Scotland, Colonel ..... Eccleston Hill, Chester  
 Scott, Mr. John ..... 19 Chichester street  
 Segar, Mr. F. .... 8 Abbey street  
 Selwood, Mr. T. .... Eaton Gardens, Chester  
 Sharpe, Mr. F. W. .... Newton House, Chester  
 Shaw, Mr. R. G. .... Bridge street  
 Sheaff, Miss Constance B. .... Sunnyside, Cambrian view  
 Sheaff, Mr. G. H. .... " "  
 \*Shephard, Mr. T., F.R.M.S. .. Kingsley Lodge, Liverpool road  
 Shephard, Miss ..... " " "  
 Shephard, Miss Emma ..... " " "  
 Shephard, Miss Annie ..... " " "  
 \*Shone, Mr. W., F.G.S. .... Upton park  
 Shone, Mrs. W ..... " "  
 \*Shrubsole, Mr., F.G.S. .... Town Hall square  
 Silk, Mr. Chas. .... Mount Pleasant, Saltney  
 \*Siddall, Mr. J. D. .... Eaton road  
 Siddall, Mrs. .... " "  
 Small, Mr. A. H. .... 3 Deva terrace  
 Smallpeice, Miss ..... The High School, Dewsbury

Smith, Mr. T. ....	Blacon Point, Chester
Smith, Mrs. S. ....	16 Nicholas street
Smith, Miss H. ....	Hampton Lodge, Liverpool road
Smith, Miss Fanny .....	" " "
Smith, Mr. F. ....	Beechwood House, 10 Canal street
Smith, Miss .....	" " "
Smith, Miss F. ....	" " "
Smith, Miss L. ....	" " "
Smith, Mr. John .....	Market square
Smith, Mr. Harry S. ....	Queen's park
Smythe, Miss .....	Barrowmore Hall, near Chester
Snelson, Miss S. ....	22 Pepper street
Spencer, Mr. Walter A. ....	Barrel Well, Boughton
Spencer, Mr. ....	36 Bridge street
Spooner, Miss .....	Newton Cottage, near Chester
Stevenson, Mr. A. ....	Grosvenor park road
Stevenson, Mr. Fletcher W. ....	Undercliffe, Lumley road
Stewart, Mrs. ....	39 White friars
*Stolterfoth, Dr., M.A. ....	60 Watergate street
Stolterfoth, Mrs. ....	" "
Stolterfoth, Miss .....	" "
Storr, Mr. ....	21 The Groves
Storr, Miss .....	" "
Storarr, Mrs. Andrew .....	5 Victoria pathway, Queen's park
*Strahan, Mr. Aubrey, M.A. F.G.S. {	H.M. Geological Survey, Museum,
	Jermyn street, London, S.W.
Summers, Mr. E. ....	1 South view, Tarvin road
Sumner, Mrs. A. ....	1 Castle Esplanade
Tabor, Mr. J. ....	Church street, Upper Northgate street
Tait, Mrs. ....	31 Pepper street
Tait, Miss .....	" "
Tarver, Rev. Canon, M.A. ....	Stisted Rectory, Braintree, Essex
*Tate, Mr. A. Norman, F.I.C. . .	9 Hackin's Hey, Liverpool
*Tate, Mr. Walter, F.C.S. ....	4 Grosvenor place
Tatlock, Mr. J. ....	21 Saint John street
Taylor, Mr. J., F.R.C.S. ....	18 Newgate street
Taylor, Mr. A. G. ....	78 Watergate street
Taylor, Mrs. ....	Meadow View, Dee banks
Taylor, Mr. J. B. ....	4 Hough green
Taylor, Mr. R. Mascie .....	Tyn Llwyn, Corwen
Tennant, Mrs. ....	City walls (South)
Tennant, Miss .....	" "
Thomas, Mr. Frank P. ....	18 Pepper street
Thomas, Miss M. ....	" "
Thomas, Miss F. M. ....	" "
Thomas, Dr. E. J. ....	" "
Thomas, Mr. Maurice .....	1 Coal Exchange
Thomas, Mr. R. ....	8 Abbey street
Thomas, Mr. Felix .....	The Industrial Schools, Boughton
Thomas, Miss Elizabeth .....	" " "
Thomas, Mr. H. ....	Upton park
Thompson, Mr. J., J.P. ....	Boughton Hall
Thompson, Mrs. J. ....	" "
*Thompson, Mr. W. ....	41 Frodsham street
Thompson, Mrs. H. ....	Curzon park
Thomson, Miss I. ....	Cambrian view

Tibbits, Mr. G. ....	The Eastgate
Tilston, Miss .....	1 King's buildings
Timothy, Mr. H. J. ....	Eccleston, Chester
Tinkler, Mr. G. ....	45 Nicholas street
Tomlin, Mrs. ....	Thorpe villa, Liverpool road
Tomkinson, Mr. Jas., J.P. ....	Willington Hall, Chester
Trelawny, Mr. H. D., J.P. ....	Shotwick park, Chester
Trelawny, The Hon. Mrs. ....	" "
Utting, Miss .....	18 Upper Northgate street
*Vincent, Mr. W. ....	73 Bouverie street
Vincent, Mrs. W. ....	" "
Vine, Rev. A. H. ....	1 Egerton terrace
Wakefield, Mr. T. ....	1 Parkgate road
*Walker, Mr. A. O., J.P., F.L.S. ....	The Leadworks, Chester
Walker, Mrs. A. O. ....	" "
Walker, Mr. F. A. ....	19, Newgate street
Walker, Miss .....	12 Liverpool road
*Ward, Mr. J. C. ....	11 Hough green
Ward, Miss .....	" "
Ward, Mr. A. E. ....	Duke street
*Waters, Dr., J.P. ....	Nicholas street
Way, Mr. N. A. E. ....	76 Watergate street
Weaver, Mr. W. M. ....	Westminster Buildings
*Webster, Mr. G. Watmough, F.C.S. ....	5 Eversley park, Liverpool road
Wells, Mr. E., Junr. ....	Eccleston
Welsby, Mr. Walter. ....	Queen's park
Welsby, Mrs. Walter .....	" "
Whaley, Mr. S. ....	1 Crane street
White, Miss E. ....	5 Abbey street
Whittingham, Mr. Wm. ....	Eccleston
Whittington, Mr. R. C. A. ....	13 Abbey street
Wilbraham, Miss E. ....	5 King's buildings
Wilbraham, Miss F. ....	" "
Wilcock, Mr. T. M. ....	24 St. Martin's-in-the-fields
Wilkinson, Mr. R. ....	21 Victoria road
Wilkinson, Mr. C. ....	47 Watergate street
Williams, Miss .....	Blacon House
Williams, Miss S. ....	" "
Williams, Mr. J. E. ....	61 Upper Northgate street
Williams, Mr. T. ....	6 Northgate street
Williams, Rev. Watkin, M.A. ....	Bodelwyddan, nr. Rhyl
Williams, Mr. R. J. ....	12 Brunswick buildings, Liverpool
Williams, Mr. J. R. ....	Dorchester House, Boughton
Williams, Mr. F. H. ....	35 Parkgate road
Williams, Mr. C. R. ....	The Mount, Waverton
Williams, Mr. Jas. ....	Fern Cottage, 56 Tarvin road
Willis, Mr. G. ....	Bunbury, Chester
Wiseman, Mr. C. ....	The Poplars, Dee banks
Wiseman, Mr. Henry .....	" "
Wood, Mrs. ....	28 Queen street
Wood, Miss .....	" "

Woodfin, Miss .....26 Lorne street  
 Woolley, Miss .....Bridge street row  
 Woolley, Mr. F. D ..... " "

Yates, Mr. Thomas .....H.M. Cheshire Regiment, The Castle  
 Yeadon, Mr. Thos. ....28 St. Anne street

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NOTICE.—*Copies of the Society's Proceedings, (No. 1, price 6d., Nos. 2 and 3, price 2/6 each), may be obtained from the HON. TREASURER or the CUSTODIAN, at the Museum.*

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THE CATALOGUE of the Society's Library, with recent additions (price 1d.), may be obtained from MR. JOHN MILLS, Eastgate Row; MR. G. R. GRIFFITH, Grosvenor Street; or the CUSTODIAN, at the Museum.



*The following Books have been added to the Library since  
the last Annual Report was issued:*

### BOTANICAL SECTION.

- B 181 Crookshank (E. M.) An Introduction to Practical  
Bacteriology, based upon the methods of Koch 1886

### GEOLOGICAL SECTION.

- Callaway (Dr.) Paper on Comparative Lithology.  
*Presented by the Author* .....  
Callaway (Dr.) Paper on the Granitic and Schistose  
Rocks of Northern Donegal. *Presented by the  
Author* .....  
G 152b Fourth Annual Report of the United States  
Geological Survey, 1882-83 ..... 1884  
G 152c Fifth Annual Report of the United States  
Geological Survey, 1883-84 ..... 1885  
Hicks (H.) On some recent views concerning  
the Geology of the North-West Highlands of  
Scotland ..... 1885  
Hicks (H.) Results of recent Researches in some  
Bone-Caves in North Wales (Ffynnon Beuno  
and Cae Gwyn) .....  
G 153 International Geological Congress. Reports of  
Sub-Committees on Classification and Nomen-  
clature. *Presented by the President* ..... 1885  
Judd (J. W.) On the Tertiary and Older  
Peridotites of Scotland. *Presented by the Author*  
Judd (J. W.) On the occurrence, as a common  
Rock-forming Mineral, of a remarkable Mem-  
ber of the Enstatite Group (*Amblystegite vom  
Rath.*) *Presented by the Author*.....  
Judd (J. W.) A Problem for Cheshire Geologists.  
*Presented by the Author*.....  
Judd (J. W.) Address to the Geological Section  
of the British Association ..... 1885  
Judd (J. W.) On the Gabbros, Dolerites and  
Basalts of Tertiary age, in Scotland and  
Ireland ..... 1886

GEOLOGICAL SECTION—*Continued.*

- Mémoires Du Comité Géologique, Vol. I., No. 4—  
Aperçu Géologique Du District De Lipetz, &c...* 1885
- G 95 Proceedings of the Liverpool Geological Society,  
Part 1, Vol. V. .... 1885
- G 131 Proceedings of the Geologists' Association,  
Vol. IX., Nos. 2, 3, 4, & 5..... 1885-86
- Reade (T. M.) Denudation of the two Americas.. 1885
- Reade (T. M.) The Mersey Tunnel: Its Geo-  
logical Aspects and Results..... 1885
- Reade (T. M.) The Drift Deposits of Colwyn Bay 1885
- Reade (T. M.) The North Atlantic as a Geological  
Basin ..... 1885
- G Strahan (A.) Memoirs of the Geological Survey—  
Geology of the coasts adjoining Rhyl, Abergel, and Colwyn ..... 1885
- Strahan (A.) On the Geology of Cheshire ..... 1884
- G 116 Transactions of the Manchester Geological Society,  
Vol XVIII., Parts 10 to 19 ..... 1885-86
- Transactions of the Liverpool Geological Associa-  
tion, Vols. IV. and V. .... 1884-85
- G 81 Vol. XXXIX of the Palæontographical Society  
for the year 1885.....

## MICROSCOPICAL SECTION.

- M 45 Quarterly Journal of Microscopical Science,  
3 Parts ..... 1885-86
- M The Journal of the Quekett Microscopical Club,  
10 parts, 1883-85. *Presented by Dr. Stollerfoth.*

## MISCELLANEOUS.

- Actas de la Academia Nacional de Ciencias en  
Cordoba, Tomo V., Entrega Primera* ..... 1884
- Ditto ditto ditto Entre Segunda* 1884
- Annual Report of the Liverpool Science Students'  
Association, Session 1884-85..... 1885
- Annual Report of the Dudley and Midland Geo-  
logical and Scientific Society and Field Club .. 1885



## MISCELLANEOUS—Continued.

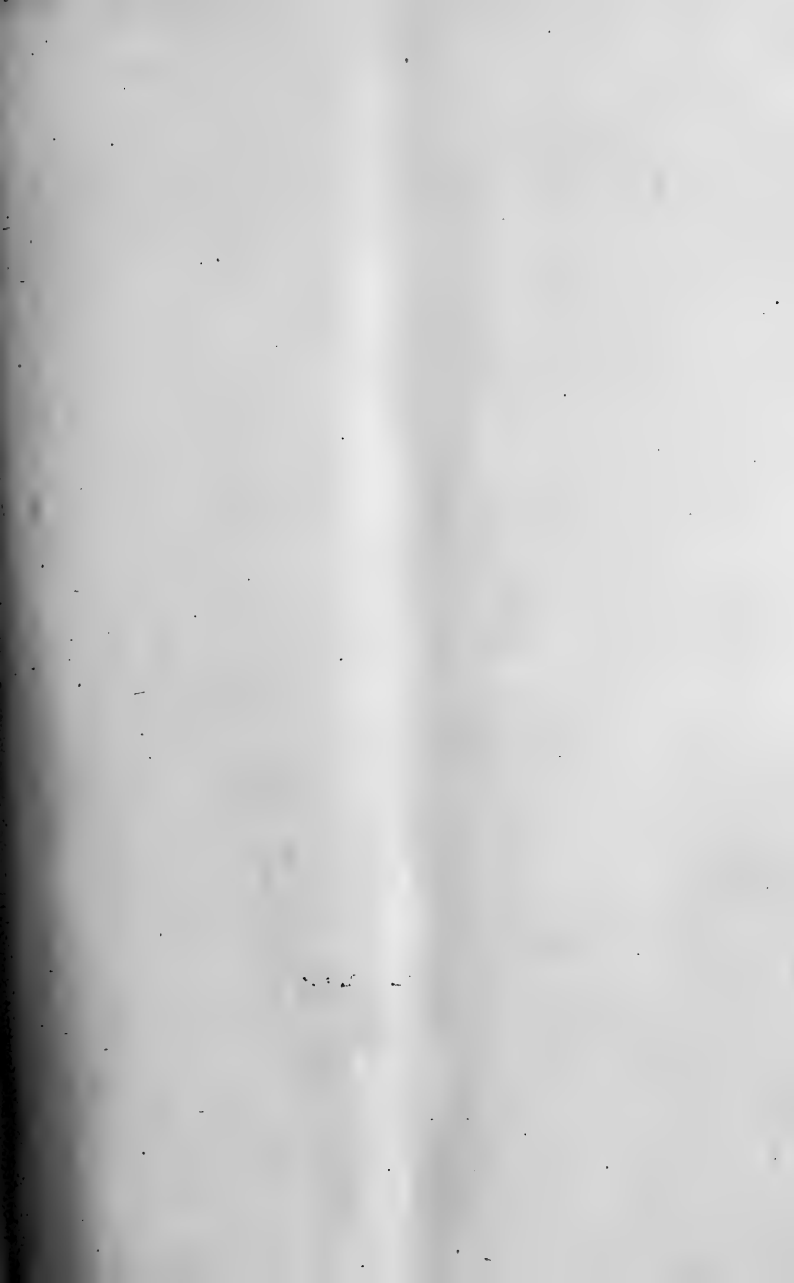
- Annual Report of the Menai Society of Natural Science and Literature ..... 1885
- X 28 Annual Report of the Brighton and Sussex Natural History Society for 1885..... 1886
- X 99 Annual Report of the North Staffordshire Naturalists' Field Club and Archæological Society .. 1885
- Annalen des K. K. Naturhistorischen Hofmuseums Redigirt von Dr. Franz Ritter von Hauer, Band 1, Nr. 1 and 2* ..... 1886
- Boletin de la Academia Nacional de Ciencias en Cordoba (Republica Argentina), Tomo VIII., Entrega 1a* ..... 1885
- Calendar of the University College of North Wales (Bangor) for the year 1885-86.....
- Ewart (J.) Forestry in India..... 1885
- Ewart (J.) A few words upon (1) The lowest Forms of Living Things, (2) Physiology, (3) The Aryan and Aboriginal Races of India 1884
- X 120 Grindon (L. H.) Country Rambles, and Manchester Walks and Wild Flowers.... 1882
- X 27 Index to the Proceedings of the Natural History Society of Glasgow, Vols. I. to V. (1851-1883) 1885
- X 111 Official Year Book of the Scientific and Learned Societies of Great Britain and Ireland..... 1885
- X 24f Proceedings of the Literary and Philosophical Society of Liverpool, Vol. XXXVIII..... 1884
- X 26 Proceedings of the Liverpool Naturalists' Field Club for 1884-85..... 1885
- X 27 Proceedings and Transactions of the Natural History Society of Glasgow, Vol. I., New Series, Part 2 (1884-85)..... 1886
- Proceedings of the Bristol Naturalists' Society, New Series, Vol. IV., Part 3 (1884-85) ..... 1885
- Proceedings of Chester Society of Natural Science, No. 3. .... 1885
- Reports of British Association, 1882-83-84. Presented by S. Rigby, Esq., J.P. ....
- Report and Proceedings of the Manchester Field Naturalists and Archæologists' Society ..... 1884

MISCELLANEOUS—*Continued.*

- X 30 Report and Proceedings of the Manchester Scientific Students' Association for the year 1884 ..... 1885
- X 118 Richardson (R.) A Critique on the Criticisms of "The Simplicity of Life" ..... 1882
- X 119 Richardson (R.) On the Nature of Life, an introductory chapter to Pathology (2nd edition) .. 1879
- X 116 Sainter (J. D.) The Jottings of some Geological, Archæological, Botanical, Ornithological, and Zoological Rambles round Macclesfield ..... 1878
- X 115 Seventh Annual Report of the Dulwich College Science Society, 1884-85 ..... 1885
- X 117 Smith (E.) and Dallas (W. S.) A System of Natural History, being a structural and classified arrangement of Plants and Animals..... 1855  
The Rochdale Field Naturalists' Journal (Monthly Parts) ..... 1885-86  
The Monthly Parts of "The Naturalist" .....
- X 108 Transactions of the Yorkshire Naturalists' Union, Part 8, for the year 1883 ..... 1885  
Transactions of the Huddersfield Naturalists' Society, 2 Parts ..... 1884-85  
Transactions and Report of the Nottingham Naturalists' Society..... 1884  
Vol. IX. (Zoology) of the Scientific Results of the Exploring Voyage of H.M.S "Challenger," 1873-6. Being the Monograph by H. B. Brady, Esq., F.R.S., on *Foraminifera*. 1 Vol. of Plates and 1 of Text. *Presented by the Author* .....

28 SEP 1888







6B  
27.A.  
3 AUG 1887

# Chester Society of Natural Science

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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## SIXTEENTH ANNUAL REPORT

AND

STATEMENT OF ACCOUNTS,

FOR THE YEAR 1886-7.



CHESTER :

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCLXXXVII.





# Chester Society of Natural Science

(Founded by Charles Kingsley, 1871.)

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## SIXTEENTH ANNUAL REPORT

AND

*STATEMENTS OF ACCOUNTS for 1886-87,*

AND THE

**LIST OF MEMBERS FOR 1887-88,**

ALSO

A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION.



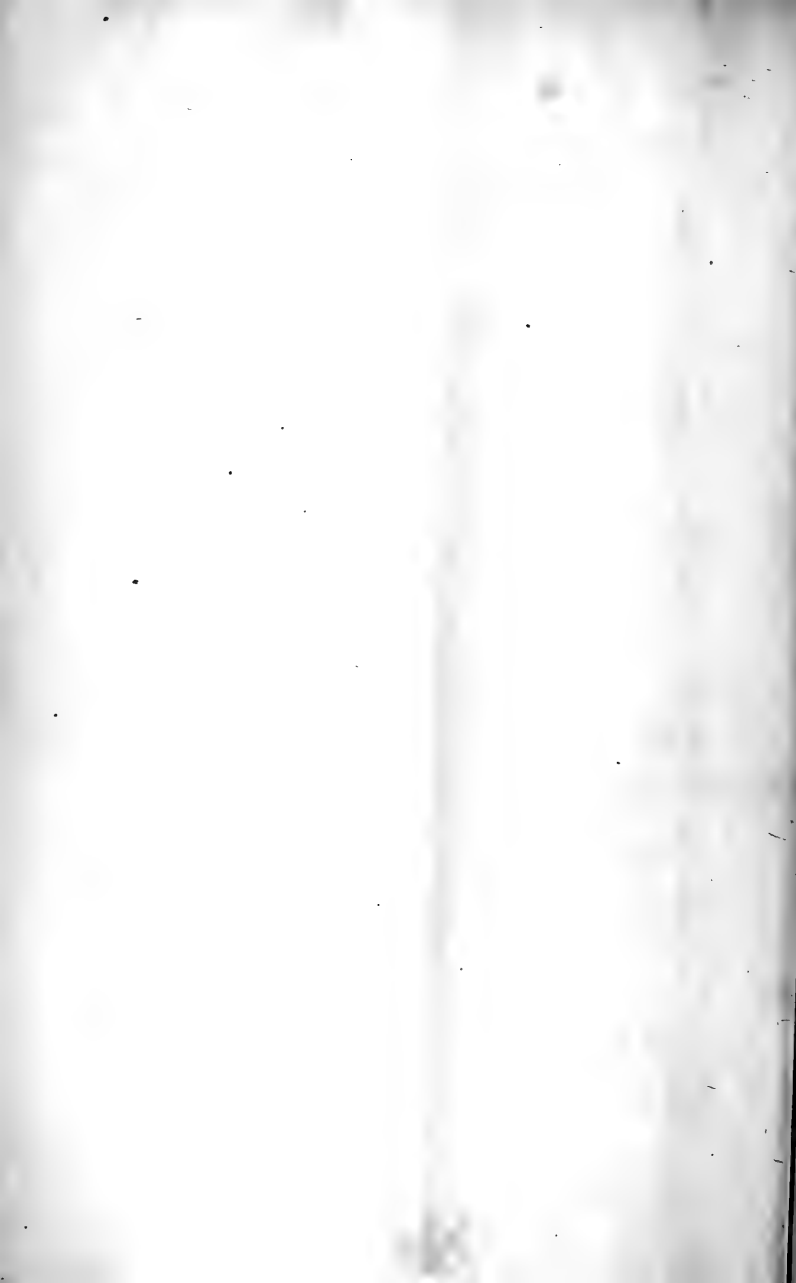
CHESTER :

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

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MDCCCLXXXVII.







# Officers and Committee for 1887-88.

## President :

PROF. T. MCKENNY HUGHES, M.A., F.S.A., F.G.S., &c.

## Vice-Presidents :

HIS GRACE THE DUKE OF WESTMINSTER, K.G.

A. O. WALKER, Esq., F.L.S.

W. M. DOBIE, Esq., M.D.

C. W. POTTS, Esq.

H. STOLTERFOTH, Esq., M.A., M.D.

T. SHEPHEARD, Esq., F.R.M.S.

## Officers of Sections :

### BOTANICAL.

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SECRETARY—MR. E. J. BAILLIE, F.L.S. ... ..*Woodbine, Eaton Road*

### ZOOLOGICAL.

CHAIRMAN—MR. A. O. WALKER, F.L.S. ... ..*The Leadworks.*

SECRETARY—MR. T. SHEPHEARD, F.R.M.S. ...*Kingsley Lodge, Liverpool Road.*

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SECRETARY—MR. A. W. LUCAS, F.R.G.S. ... ..7 *Victoria Pathway,*  
*Queen's Park*

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CHAIRMAN—MR. G. WATMOUGH WEBSTER, F.C.S. ...5, *Eversley Park,*

*Liverpool Road*

SECRETARY—MR. W. F. LOWE, A.R.S.M., F.I.C., F.C.S.—*Cambrian View.*

### MICROSCOPICAL.

CHAIRMAN—DR. STOLTERFOTH, M.A. ... ..60, *Watergate Street.*

SECRETARY—MR. J. D. SIDDALL ... ..*Eaton Road.*

### PHOTOGRAPHIC.

CHAIRMAN—MR. E. W. PARNELL ... ..*Queen's Park.*

SECRETARY—MR. G. FRATER ... ..3, *Lorne Street.*

## Hon. Treasurer :

MR. JOHN MILLS, 4, *Eastgate Row.*

## Hon. Secretaries :

SCIENTIFIC ... ..DR. STOLTERFOTH, M.A., 60, *Watergate Street.*

GENERAL ... } MR. G. R. GRIFFITH, 30, *Hough Green.*

} MR. W. H. OKELL, 1 *Northgate Street.*

## Hon. Librarian :

MR. P. H. FLETCHER, *Woodbrae, Curzon Park.*

## Committee :

THE ABOVE OFFICERS, *Ex-Officio* ;

AND

MR. R. FARMER

REV. A. H. FISH, B.A., B.Sc.

MR. JOHN GRIFFITHS

MR. F. F. HICKMAN

MR. M. JOHNSON, L.D.S.I.

DR. H. W. KING

## Hon. Auditors :

MR. J. ROWE DUTTON

MR. W. VINCENT

## Curator :

MR. R. NEWSTEAD, *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science*," and that its object be the promotion of the study of Natural Science, by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in the Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee, previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting, which shall be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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THE Chester Society of Natural Science has now completed its sixteenth year. Commencing in a tentative manner, it existed for fifteen years without any fixed abode, and it was only after our last Annual Meeting that we moved into the present beautiful and commodious building. This move and the arrangement of the Society's possessions, entailed a vast amount of labour on the officials, so that if we were asked what particular work had been achieved during the past year we should answer,—not Natural History, but the fitting of ourselves into a new habitat and learning how we could best adapt ourselves to the new environment ; but, I think, you will find all has been done carefully, and with comparatively small injury to the specimens.

As the Grosvenor Museum building is managed by a special Committee, and we as a Society are only one of three bodies making use of, and supporting the whole Institution, we shall do well in this Report to confine ourselves to the special object that our Society has in view—to promote the study of the Natural History of the District. As this is intimately connected with the individuals who carry out the work, so the Report of the Society must deal with what is done by its own Members.

Your Committee have lost no Honorary Members during the past year, and have added to their number the name of the REV. A. M. NORMAN, who has always been a good friend to the Society.

We have elected during the year seventy-eight Ordinary Members, and have now on our books a total of 585 Members.

The Chester School of Science is now incorporated with the School of Art, and forms one body, and will in future be known as "The Chester School of Science and Art," under a

separate Committee of Management. Your Committee which undertook the School of Science for so many years, was able to transfer it to the new management free of debt. With the improved accommodation, the new Schools have doubled in numbers, thus showing how much they are appreciated, and that they meet a want long felt in the City for improved Art, Technical, and Scientific teaching.

Our Hon. Treasurer, MR. JOHN MILLS, will place before you the Annual Balance Sheet. This, the Committee consider to be very satisfactory, as the small adverse balance he reports may be fairly considered to be due to the cost of removal—the expenses incurred under this head having been considerable.

The Hon. Treasurer, MR. E. J. BAILLIE, will read you the Balance Sheet of the Kingsley Memorial Fund, managed by our Society.

The Library has been put in thorough order by our Hon. Librarian, MR. P. H. FLETCHER, and MR. W. H. OKELL. The books are now more accessible than at any former time, and the facilities offered to the Members are much greater, so that your Committee hope that more use will be made of the Library than hitherto.

Our Hon. Curator, MR. SHRUBSOLE, will read you the Museum Report.

Your Committee take this opportunity of thanking DR. ELLIS for his great kindness in naming the Collection of Coleoptera lately added to the Museum.

The work of the Society, and the means by which it endeavours to keep alive the interest of the Members, may be considered under the following heads—

EXCURSIONS

GENERAL LECTURES

EVENING RAMBLES

SECTIONAL MEETINGS

CONVERSAZIONE

PRIZES

During the past summer there were seven field excursions, and the following places visited—

1886.	
May 27th.....	Gresford
June 14th .....	Eaton Hall (Grand Fête)
July 15th.....	Farndon and Holt
July 21st .....	Holmes Chapel
August 17th .....	Flint, Conway, and Carnarvon
August 30th ...	Colwyn Bay and Llandrillo
September 4th .....	Helsby

On the whole the excursions were not well attended: on two or three of the days the weather was deplorably wet, and the fact that many of our leading Members could not give the time and attention to the excursions which they had done in previous years, was another drawback. This was owing to the extra work entailed in the moving and arranging of our possessions in the new building, and seeing to the Loan Exhibition which was kept open in the Museum for some weeks with a view to increasing the Funds of the Building Committee.

The visit to Holmes Chapel, under the guidance of the REV. H. G. BARNACLE, was full of interest, and the splendid Conchological show in the School-room after tea, was a treat to many of our Members. The day spent at Colwyn was also very successful; for, thanks to MR. A. O. WALKER, who acted as our guide, we had the opportunity of seeing many curious shrubs in his garden, as well as exploring a district rich in Natural History objects.

The Evening Rambles suffered from the same causes as the excursions, and we must hope for better things in coming years.

For the first time since the formation of the Society, the Annual Conversazione was not held in the Town Hall. The reason for this was that we had a splendid Loan Collection in our New Museum, and it was thought well to give our Members an opportunity of spending an evening amongst treasures that might not again be brought together. This robbed our Conversazione of some of its usual characteristics. We had no

room for the Microscopes, and the only addition made was a show of Fungi in the Natural History room. In the Lecture Theatre there was a large gathering for the purpose of awarding the Kingsley Memorial Medal and Prize. HER GRACE THE DUCHESS OF WESTMINSTER presented the Medal to DR. STOLTERFOTH, and the Kingsley Memorial Prize of £10 to MR. R. NEWSTEAD for his Collection of Bees and Wasps made in the Society's District. At the conclusion of the proceedings, the President of the Society, PROF. T. MCKENNY HUGHES gave an address, entitled—"Footprints on the Sands of Time," which was listened to with deep interest.

In the past winter there have been seven General Meetings, at which the following Lectures have been given—

1886.

Oct. 28—"Caves and Cave deposits," by the PRESIDENT.

Nov. 25—"The structure and origin of Meteorites and Meteoric Iron," by H. CLIFTON SORBY, ESQ., LL.D., F.R.S.

Déc. 16—"The Silks of India and their Industrial Applications," by THOMAS WARDLE, ESQ., of Leek.

1887.

Jan. 27—"Volcanoes; with special reference to recent Eruptions," by F. W. RUDLER, ESQ., F.G.S.

Feb. 24—"Ascidians: their Structure and Life History," by PROF. HERDMAN, D.S., F.L.S., F.R.S.E.

Mar. 31—"Things we do not see because they are so small," by the REV. H. H. HIGGINS, M.A. (President of the Liverpool Naturalists Field Club.)

April 28—Annual Meeting.

The attendance at these Meetings has been good, but hardly as numerous as the high quality of the Lectures might have led us to expect. Two of the Lecturers came for the first time before our Society—H. CLIFTON SORBY, ESQ., and THOMAS WARDLE, ESQ.—both men who have made a name, and who are distinguished by their thorough knowledge and enthusiasm in the special branches of scientific investigation which they pursue. PROF. HERDMAN'S Lecture was full of instruction, and contained new matter of deep interest to our Members.

The five Sections under which our Society works, have each met three or four times during the winter, and the following

## Papers have been read and discussed—

1886.

### GEOLOGICAL SECTION.

- Nov. 4—"The silting up of the River Dee since the Roman occupation of Chester," by MR. W. SHONE, F.G.S., *Secretary*.

1887.

- Feb. 10—"Fossil Footprints at Storeton," by MR. OSMUND W. JEFFS.  
Mar. 24—"Local examples of subaërial as compared with Marine denudation," by MR. W. SHONE, F.G.S., *Secretary*.

1886.

### NATURAL PHILOSOPHY SECTION.

- Nov. 11—"Coal Tar and Modern Dyes," by MR. G. W. WEBSTER, F.C.S., *Chairman*.

1887.

- Feb. 17—"Biological Method of Water Analysis," by MR. W. F. LOWE, A.R.S.M., *Secretary*.

MR. TURNER GRIFFITHS was announced twice to give a Paper on "Our Weights and Measures." On January 6th, he was prevented from doing so by a family bereavement; on the second occasion, which was the Thursday Evening before Good Friday, owing to an unfortunate accident the Chairman was not present, and the audience being small, MR. GRIFFITHS decided to defer reading his Paper. He has, however, kindly offered to give it at the commencement of our next Session.

1886.

### MICROSCOPICAL SECTION.

- Nov. 18—"The principles of the Camera Lucida, and how to draw with it," by DR. STOLTERFOTH, M.A., *Chairman*.

1887.

- Jan. 13—"The display (preparation and illumination) of living Micro-organisms," by MR. M. JOHNSON, F.R.M.S.  
Mar. 10—"The preparation of Rock Sections for the Microscope," by MR. J. D. SIDDALL, *Secretary*.  
April 14—"Notes on Count Castracane's Report on the Diatomaceæ of the 'Challenger,'" by DR. STOLTERFOTH, M.A., *Chairman*.

1886.

### BOTANICAL SECTION.

- Dec. 2—"Striking Phenomena in a few familiar Plants," by MR. J. PRICE, M.A., *Chairman*.

1887.

- Jan. 20—"On the dissemination of Plants," by MR. F. V. DUTTON.  
Mar. 3—"The cultivation of Pears and Apples on the Northern Coast of Wales," by MR. A. O. WALKER, F.L.S.  
April 21—"Notes on the Natural Order *Graminæ*," by MR. G. P. MILN.

1886.

### ZOOLOGICAL SECTION.

- Dec. 9—"Review of the past Season, with a short account of the Dredging with the Liverpool Marine Biological Committee," by MR. A. O. WALKER, F.L.S., *Chairman*.

1887.

Feb. 3—"On some details of the life history of *Planorbis Corneus*," by MR. SHRUBSOLE, F.G.S.

Mar. 17—"Circulation of Blood," by MR. R. T. CANN, M.R.C.S.

The only new Members who have favoured us with Papers are MR. F. V. DUTTON and MR. R. T. CANN, M.R.C.S., and we have been glad to welcome them. Amongst so large a number of Members, we ought to have more Papers from fresh hands, and if some of our Members would only give us the result of what they observe and note, it would be of great benefit to the Society and use to the individuals themselves, for the work of preparing a Paper is a training in itself, and brings to an accurate focus much which would otherwise remain only a vague kind of knowledge. MR. LOWE's Paper was an admirable example of what patient industry can effect in a subject surrounded with difficulties. MR. WALKER's Paper on the cultivation of Pears and Apples on the North Coast of Wales, was given in connection with a Fruit Conference held in the Museum, which may be expected to produce practical results. It ought to be one of the objects of our Society to help those industries which have as their basis a knowledge of the laws governing growth and reproduction; and it was a move in the right direction when our Society helped to start the Fruit Conference, though it will not be the business of the Society to follow it out into its practical working.

Besides the Sectional work of the Society, a number of Members have met weekly on Wednesday Evenings during the winter for the purpose of self-improvement. They have as far as possible worked through Huxley's Practical Biology. This they have done in order to lay a foundation for more extended work in the same direction, and hope during next winter to take up some special branch of Zoology, with a view to the better arranging and naming of the specimens in the Museum. A Section is in process of formation for the study and practice of Photography. This will be a source of strength to the whole Society, for scientific work is at the present day largely indebted



to Photography for a record of what are in many cases only transient phenomena. We, therefore, welcome our new fellow-workers with the greatest pleasure.

It is probable that in the following Winter the Meetings of the Microscopical Section will be discontinued, as it is felt that the Members of this Section can better help the Society by aiding the different Sections at their Meetings.

Your Committee has met seventeen times during the past year for carrying on the business of the Society. In many respects the work has been arduous, and the result as far as Natural History is concerned, has perhaps been small ; but now that we are settled, we must hope to do more, and to show that with improved appliances about us, we can produce better work than we have hitherto.

Your Committee gladly avail themselves of this opportunity of thanking the Museum Management Committee for the uniform kindness and consideration they have accorded to any wish expressed by our Society, and if it has not been in their power to comply with all our suggestions, we know the reason has been lack of means, and a desire to keep the expenses of the Building within proper limits.

HENRY STOLTERFOTH, M.A., M.D.,  
*Scientific Secretary.*

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## CURATOR'S REPORT FOR 1886-87.

We are indebted to DR. HY. THOMAS for Mountain Limestone Fossils from the Great Orme's Head ; to the CHAIRMAN of the Halkyn Mines Company, a fine block of Lead Ore ; to MR. LUXMOORE for several boxes of Cave Bones ; and to MR. SHONE, F.G.S., for his Collection of Shells from the Boulder Clay of the district.

GEORGE W. SHRUBSOLE.

GROSVENOR MUSEUM,  
APRIL 22, 1887.

# The Hon. Treasurer in Account with the Chester Society of Natural Science, for the Year 1886-87.

Dr.			Cr.		
	£	s. d.		£	s. d.
By Subscriptions—			To Balance due to Treasurer	..	1 3 6
10 <sup>th</sup> for 1885-86	..	2 10 0	„ One Half-year's Rent of Albion Rooms	..	15 0 0
5 <sup>th</sup> „ 1886-87	..	129 0 0	„ Museum Management Committee	..	40 0 0
			„ Furniture and Fittings	..	4 1 8
„ Balance from Evening Meetings' Account	131	10 0	„ Cleaning and Attendance	..	4 10 11
„ Sale of Society's Proceedings, &c.	..	5 14 3	„ Library—New Books, &c.	..	2 10 7½
„ Sale of Library Catalogues	..	0 18 2	„ Museum	..	5 15 6
„ Sale of Old Gas Meter	..	0 1 9	„ Coal, Gas, Lamps, &c.	..	2 5 0
Balance due to Treasurer..	..	1 10 0	„ Printing, Stationery, &c.	..	34 19 0
			„ Postages	..	15 16 1
			„ Balance on Excursion Account	..	0 1 0½
			„ Expenses of Removal	..	12 16 3½
			„ Fire Insurance	..	2 3 9
			„ Subscription to Palaeontographical Society	..	1 1 0
			„ Repairs	..	0 7 6
				<u>£142 11 10½</u>	

May 13<sup>th</sup>, 1887—Examined and found correct, showing a balance due to the Treasurer of  
Two Pounds Seventeen Shillings and Eightpence Half-penny,

JOHN MILLS,  
HON. TREASURER.

J. ROWE DUTTON, }  
W. VINCENT, }  
HON. AUDITORS.

# "KINGSLEY" MEMORIAL FUND.

## STATEMENT OF ACCOUNT for the Year ended 30th April, 1887.

Dr.	£ s. d.	Cr.	£ s. d.
To Balance ..	.. 48 9 6	By Mr. Newstead, Kingsley Memorial Prize for	
" G.W. Dividends ..	.. 15 4 6	Collection of Bees and Wasps ..	.. 10 0 0
" Bankers' Interest ..	.. 0 15 9	" Grant to Mr. Newstead for various Contributions	
" Proceeds—Sale of "Transactions" to date ..	.. 0 14 0	to the Museum ..	.. 10 0 0
		" Adverting ..	.. 2 6 0
		" Painting Names on Notice Board ..	.. 0 7 8
		" Engraving Kingsley Memorial Medal ..	.. 0 8 0
		" Rebinding Minute Book ..	.. 0 2 6
		Balance ..	.. 41 19 7
	<u>£65 3 9</u>		<u>£65 3 9</u>

*Examined and found correct,*

W. VINCENT,  
HON. AUDITOR.

EDMUND J. BAILLIE,  
HON. TREASURER.

## KINGSLEY MEMORIAL PRIZES.

---

*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers:—

### 1887.

- A PRIZE of TEN POUNDS for the best Essay on the "PHYSIOGRAPHY OF THE SOCIETY'S DISTRICT" (on the lines of PROFESSOR HUXLEY'S Physiography.)

### 1888.

- A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

---

In addition to the above Prizes, the Committee have decided that, in order to encourage scientific research, they will make grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

The Collections, Essays, or Notes of Observations may be sent in to either of the General Secretaries at any time, and the awards will be made at the *Conversazione* next succeeding the adjudication.

---

NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

---

*Intending Competitors should obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries of the Chester Society of Natural Science; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

---

The Prizes will be awarded at the Annual *Conversazione*.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

---

- La Société d'Histoire Naturelle de St. Wladimir à Kiew,  
Russie.
- Academia Nacional de Ciencias De La Republica  
Argentina, Cordoba.
- Barrow Naturalists' Field Club.
- Brighton and Sussex Natural History Society.
- Bristol Naturalists' Society.
- Burnley Literary and Scientific Club.
- Cassel Society of Natural Science.
- Dudley and Midland Geological and Scientific Society  
and Field Club.
- Epping Forest and County of Essex Naturalists' Field  
Club.
- Glasgow Natural History Society.
- Hertfordshire Natural History Society and Field Club.
- Huddersfield Naturalists' Society.
- Leeds Naturalists' Club.
- Liverpool Geological Society.
- Liverpool Geological Association.
- Liverpool Literary and Philosophical Society.
- Liverpool Microscopical Society.
- Liverpool Naturalists' Field Club.
- Liverpool Science Students' Association.
- Manchester Field Naturalists' Society.
- Manchester Geological Society.
- Manchester Microscopical Society.
- Manchester Scientific Students' Association.
- Menai Society of Natural Science.
- Northampton Natural History and Field Club.
- North Staffordshire Naturalists' Field Club and Archæo-  
logical Society.
- Nottingham Naturalists' Society.
- Postal Microscopical Society
- Quekett Microscopical Club.
- Rochdale Field Naturalists' Society.
- Smithsonian Institution, Washington, D.C.
- United States Geological Survey.
- Vienna Natural History Museum.
- Wigan Literary and Scientific Society.

## HONORARY MEMBERS.


*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


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 F.G.S. .... *Hillfield, Gateshead*  
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 F.G.S., F.S.A. .... *Woodhurst, Wilmslow rd., Fallowfield, Manchester*  
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 F.S.A., F.G.S., &c. .... *Trinity College, Cambridge*  
 Huxley, Prof. T. H., LL.D., F.R.S.,  
 Ph.D., F.L.S., F.G.S. .... 4 *Marlborough Place, London, N.W.*  
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 \*Morton, G. H., Esq., F.G.S. .... 209 *Edge lane, Liverpool, E.*  
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 F.L.S. .... *Fence House, Durham*  
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 \*Rae, E., Esq., F.S.A. .... *Court Lodge, Birkenhead*  
 \*Rudler, F. W., Esq., F.G.S. .... *Museum of Practical Geology, Jermyn street, London, S.W.*  
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 \*Symonds, Rev. W. S., F.G.S. .... *care of Sir J. D. Hooker, C.B., The Camp, Sunningdale, Ascot*  
 Tyndall, Prof. J., D.C.L., LL.D., F.R.S. ... *Royal Institution, Albemarle street, London, W.*  
 \*Vize, Rev. J. E., M.A. .... *Rector of Forden, Welshpool*  
 Warren, Hon. J. B. Leicester. .... 62 *Elm Park road, Chelsea, London, S.W.*

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 Joachim, Mr. Geo. .... *Dunedin, Otago, New Zealand*  
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 \*Ruddy, Mr. Thos. .... *Palé, Corwen*  
 \*Thomas, Dr. H. .... *The Hydropathic Establishment, Llandudno*  
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 Walker, Mr. Fred. .... *Heywood, Tenby*  
 Wynne, Mrs. Lloyd .... *Coed Coch, Abergely*  
 \*Wilkins, Mr. T. S. .... *Ultoxeter*

## NOTICE.

 THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, MR. JOHN MILLS, Chemist, Eastgate Row.

 To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary according to Rule 8.

## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

Acheson, Rev. J. H., M.A.	....	Cambrian view
Acheson, Mr. Maurice	.....	"
*Acton, Mr. T. Bennion	.....	Grove road, Wrexham
Adams, Mr. Beresford	.....	8 Cheyney road
Adams, Mr. Geo. F.	.....	Brighton villa, Saughall road
Alletson, Mr. W.	.....	Oakenholt, Flint
Appleton, Mr. John	.....	9 Lorne street
Arkle, Mr. J.	.....	Diocesan Schools, George street
Avery, Mr. John	.....	71 Bouverie street
Ayrton, Mrs.	.....	Abbot's Rock, 33 Liverpool road
Ayrton, Mr. Alfred G.	.....	" " "
*Baillie, Mr. E. J., F.L.S.	.....	Woodbine, Eaton road
Baillie, Mrs. E. J.	.....	"
Baker, Mr. W. S., L.D.S.I.	....	Edgar house, City walls
Baker, Mrs.	.....	24 Frodsham street
Baker, Miss	.....	48 Bridge street
Barker, Miss	.....	150 Boughton
Barker, Mr. A.	.....	6 Abbey street
Barlow, Miss M.	.....	Coed Pella, Colwyn Bay
Barnacle, Rev. H. G.	.....	The Vicarage, Holmes Chapel, Crewe, R.S.O.
Barnes, Rev. F., B.A.	.....	Hope villa, Raymond street
Barnett, Mr. Thos. B.	.....	Hoole park
Barrett, Rev. W. F., M.A.	.....	Mostyn House, Parkgate
Barrett, Mrs. W. F.	.....	" "
Barrow, Miss	.....	The Infirmary
Bassett, Miss C. E.	.....	68 Northgate street
Baxter, Mr. Geo.	.....	47 Queen street

- \* Bedford, Rev. J. L., M.A., F.L.S. . . . 10 Abbey square
- Bedford, Mrs. . . . . . " "
- Bernard, Mr. John . . . . . 17 City walls
- Birch, Mr. H. J. . . . . Corville, Liverpool road
- Birch, Miss . . . . . 18 Upper Northgate street
- Blayney, Mr. A . . . . . 2 City Walls, W.
- Blayney, Mrs. A. . . . . " "
- Blezard, Mr. Marmaduke . . . . . Pulford, near Wrexham
- Blogg, Rev. H. B., M.A. . . . . The Vicarage, Frodsham
- Blomfield, Capt., R.N. . . . . @ Messrs. Woodhead & Co., 44 Charing  
Cross, London
- Blower, Mr. T. B. . . . . 6 The Groves
- Blower, Mr. W. . . . . 4 Williams' terrace, Hoole
- Boddington, Miss Lily . . . . . 15 The Groves
- Bolland, Mr. F. C. . . . . Hoole park
- Bolland, Mr. Wm. . . . . 23 Hough Green
- Bonnalie, Mr. G., L.D.S., R.C.S.E . . 4 Abbey square
- Bonnalie, Mr. Geo. S. . . . . " "
- Bonnalie, Mr. Fredk. . . . . " "
- Borwick, Rev. R. P. . . . . Frodsham, near Chester
- Bowers, Mr. H. R. . . . . Abbot's Lodge, Liverpool road
- Bowers, Mrs. H. R. . . . . " "
- Bowles, Mr. T. S. . . . . 21 Raymond street
- Box, Mr. Henry . . . . . 46 Frodsham street
- Boyson, Miss Annie H. . . . . { Grove House, Larkhall Rise, Clapham,  
London, S.W.
- Brassey, Miss . . . . . Rose Hill, Bowdon, Cheshire
- Brayshaw, Mr. E. C. . . . . 4 Crane street
- Brewer, Miss E. . . . . 15 Paradise row
- Broadbent, Mrs. . . . . . Bache Cottage
- Brown, Miss . . . . . 144 Boughton
- Brown, Mr. C. . . . . The Folly, Flookersbrook
- Brown, Miss L. E. . . . . " "
- Brown, Mr. W. . . . . 18 Curzon park
- Brown, Mr. F. F., M.A. . . . . " "
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- Bullin, Mr. F., J.P., L.D.S., R.C.S. . . 22 Nicholas street
- Butt, Miss . . . . . 8 Curzon park
- Butte, Miss . . . . . 7 Short place, Garden lane
- Campbell, Rev. E. A. Pitcairn, M.A., J.P. . . . . Vicar's Cross
- Carrington, Mr. A. . . . . 12 White friars
- Cartwright, Mr. T. . . . . Bridge street
- Catherall, Mr. T. . . . . Holly Bank, Queen's park
- Chapman, Mr. F. W. . . . . 40 Tarvin road
- Chappell, Mr. A. . . . . Brierley, Brook lane
- Chester, The Right Rev. The Lord Bishop of . . . The Palace, Dee Side
- Clayton, Mr. Albert . . . . . 38 Hough Green
- Clough, Miss . . . . . 18 Queen street
- Clough, Mr. G. F. . . . . Boughton House
- Clough, Miss Lily . . . . . " "
- Coe, Mr. D. . . . . 26 Lightfoot street, Bishopsfield
- Coe, Mr. Henry . . . . . 4 Bold terrace
- Collinge, Mr. James . . . . . Kinnerton Lodge, Chester
- Connah, Mr. Jas. . . . . The Laboratory, Somerset House, London, W.C.
- \* Connor, Mr. Rochfort . . . . . Inland Revenue Office, Greenock, N.B.
- Coppack, Mr. Chas. . . . . Derby Cottage, 107 Garden lane



Cordery, Mr. J. .... 7 Liverpool road  
 Cordery, Miss C. .... 79 Boughton  
 \*Cowap, Mr. C R..... 22a Cambrian view

Darby, Very Rev. J. L., D.D. .. The Deanery  
 Davey, Mr. .... 3 Brighton terrace  
 Davey, Mrs. .... " " "  
 Davies-Colley, Dr. T., J.P. .... Newton Cottage, near Chester  
 Davies-Colley, Miss E. C. .... " " "  
 Davies, Miss Henrietta ..... 69, Boughton  
 Davies, Mr. E. Henry ..... 19 Francis street  
 Davies, Mr. J. .... " "  
 Davies, Mr. John ..... Parr's Banking Co., Eastgate street  
 Davies, Mr. J. P. .... 75 Crane street  
 Davies, Miss ..... 1 Victor street, Boughton  
 Davies, Mr. John ..... 6 Victoria pathway, Queen's park  
 Day, Mr. C. J. .... Rowton, Chester  
 Dearden, Mr. G. K. .... 20 Eaton villas, Eaton road  
 Denson, Mr. W. .... 21 Upper Northgate street  
 Denson, Mrs. W. .... " " "  
 Denson, Miss Adelaide ..... " " "  
 Denson, Mr. J. Lyon ..... " " "  
 Denson, Mr. T. F. .... 8 Church street  
 Denson, Mrs. T. F. .... " "  
 Dickson, Mr. F. A., J.P. .... Upton Hall, Chester  
 Dickson, Mrs. F. A. .... " "  
 Dickson, Miss A. .... " "  
 Dickson, Mrs. George A. .... Springfield, Flookersbrook  
 Dickson, Miss Lavinia ..... " "  
 Dickson, Mr. Jas. .... Brookfield House, Chester  
 Dickson, Mr. W. A. .... Newton villa, Chester  
 Dickson, Mr. S. J. R. .... Mayfield House, Hoole  
 \*Dobie, Dr. W. M. .... 23 Upper Northgate street  
 Dobie, Miss ..... " " "  
 \*Dobie, Mr. W. H., M.B. .... 22 Upper Northgate street  
 Dod, Rev. C. Wolley, M.A., J.P. .. Edge Hall, Malpas, Chester  
 Dod, Miss Wolley ..... " " "  
 Dodd, Mr. W. .... 143 St. Anne street  
 Dodds, Mr. John ..... Lorne street (North)  
 Downing, Miss ..... 19 Eaton road  
 Droughton, Mr. Jerome ..... 27 Victor street, Boughton  
 Drury, Mrs. .... Abbot's field, Liverpool road  
 Drury, Mr. R. .... " "  
 Dugdale, Mr. John ..... Spital field, Boughton  
 Duncan, Mr. C. W. .... Arnold House  
 Dutton, Mr. J. Rowe ..... 24 Nicholas street  
 Dutton, Mr. George ..... 13 Curzon park  
 Dutton, Mrs. .... " "  
 Dutton, Mrs. G. W. .... 15 Curzon park  
 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 \*Dutton, Mr. F. V. .... 9 Eaton road

\*Edwards, Mr. J. W. P. .... 133 Boughton  
 Edwards, Mrs. J. W. P. .... " "  
 Edwards, Mr. J. E., J.P. .... Abbot's Mount, Liverpool road

Edwards, Mr. J. ....	74 Foregate street
Enock, Mr. C. R.....	Parkgate road
Enock, Mrs. C. R. ....	"
Enock, Miss .....	"
Evans-Lloyd, Colonel .....	Stanley House
Evans, Mr. F. ....	The Eastgate
Evans, Mr. R. ....	Cambrian view
Evans, Miss .....	Eversley House, Eversley park, L'pool road
Evans, Rev. T. J., M.A. ...	Hargrave Rectory, near Chester
Ewen, Mr. I. E. ....	Eccleston, near Chester
Ewen, Miss.....	"
Ewing, Mr. C. A.....	Newgate street

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Farmer, Mrs. .... " "  
Farrimond, Mr. F. T. .... Sunnyside, Boughton  
Fawcus, Mr. W. J. P..... Victoria Iron Works  
Feilden, Miss ..... Mollington Hall, Chester  
Fenton, Mr. T. J. O'C ..... Fairclough lane, Birkenhead  
Ffoulkes, His Honor Judge Wynne, M.A.. Upper Northgate street  
Ffoulkes, Mr. Thomas B., Junr. . 65 Berner's street, Ipswich  
Finchett, Mr. W. H. .... Savings' Bank, Grosvenor street  
Firth, Mr. N. C. .... 125 Foregate street  
Fish, Mrs. .... 2 Chichester street

\* Fish, Rev. A. H., B.A., B.Sc. (Lond.) } Arnold House School, Parkgate  
                                                      } road

Fleet, Mr. H. .... 76 Lower Bridge street  
\* Fletcher, Mr. P. H. .... Woodbrae, Curzon park  
Fletcher, Mrs. P. H. .... " "  
Fletcher, Miss ..... " "  
Fluitt, Miss ..... Grey friars  
Frater, Mr. G. .... 3 Lorne street  
Frater, Mr. Jas. .... " "  
Freeman, Mr. C. E. .... Manor House, Sealand  
Frith, Mr. Philip J. .... 21 Tarvin road  
Frith, Mr. Jas. N. .... " "  
Fromont, Mr. W. H. .... 15 Tarvin road  
Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
Frost, Lady ..... " "  
Frost, Mr. J. M. .... Dee Lodge "

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Garnett, Mr. W. ....	Bridge street row
Garside, Mr. F. ....	30 Ruskin road, Nantwich road, Crewe
Gibson, Mr. J. M. ....	Buckley, <i>via</i> Chester
Gilbert, Mr. Leonard, J.P. ....	Egerton Villa, Liverpool road
*Giles, Rev. W. T., M.A., F.R.G.S. ....	Netherleigh House, Eaton road
Giles, Mr. Hammond ....	National Provincial Bank, Chester
Glascodyne, Miss ....	The Queen's School, City walls
Golder, Mr. S. ....	Curzon park
Golder, Mr. J. T. ....	"
Gordon, Miss Anna ....	4 Tarvin road
Gorst, Miss. ....	Spring villa, Liverpool road
Graham, Mr. Jas. ....	36 King street
Graham, Mrs. ....	"
Graham, Mr. Harold J. ....	"
Graham, Miss ....	Cambrian view

- \*Granger, Mr. F. M., M.R.C.S., L.R.C.P.L.... 18 Nicholas street  
 Grantham, Rev. H. .... St. Mary's Rectory, Chester  
 Green, Mr. T. E. .... 26 St. Martin's-in-the-fields  
 Green, Mr. B. W..... Bridgegate House  
 Gregg, Mr. W. .... 2 Watergate square  
 Griffith, Mr. G. R. .... 30 Hough green  
 Griffith, Mrs. G. R. .... " "  
 Griffith, Miss ..... " "  
 Griffith, Mr. N. de B. .... " "  
 Griffiths, Mr. Jno. .... 4 Exton park, Parkgate road  
 Griffiths, Mrs. John ..... " "  
 Griffiths, Mr. T. W..... 5 Hough green  
 Griffiths, Miss ..... 42 Watergate street  
 Griffiths, Mr. T. Turner, B.A. .. " "  
 Griffiths, Mr. John ..... " "  
 \*Grocott, Mr. E. A. .... 21 White friars  
 Gunton, Miss ..... Rimmersfield, Liverpool road  
  
 Haining, Dr. W. .... 82 Foregate street  
 \*Hall, Mr. J. H. A. .... Old Bank House  
 Hall, Mrs. .... " "  
 Hamel, Miss ..... 9 Abbey street  
 Hamilton, Mr. A., M.R.C.S.... 16 White friars  
 Hankey, Mr. Lee ..... Rock Mount, Liverpool road  
 Hankey, Miss C. M..... " "  
 Hanmer, Mr. F..... Bridge street  
 Hann, Mr. C. E. .... Eaton Gardens, Chester  
 Hardy, Mr. J. E. .... The Blue School, The Northgate  
 Hardy, Mrs. .... " "  
 Harrison, Miss ..... 20 Lorne street  
 Harrison, Mrs. Jno. .... Ashton House, New Crane street  
 Harrison, Mr. N. .... Highfield, Curzon Park  
 Harrison, Mrs. N. .... " "  
 Henderson, Mr. J. E. .... 19 Pathway, Queen's park  
 Henderson, Mr. J. W..... " "  
 Henderson, Mr. Wm. .... 11 Union walk  
 Henry, Mr. R. G. .... 65 Bouverie street  
 Henshaw, Mr. T. .... Edgbaston villa, Brook lane  
 Henshaw, Miss Florence M. .... " "  
 Heppel, Miss ..... 2 Exton park  
 Herne, Colonel ..... Delamere House, Liverpool road  
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 Hickman, Mr. F. F..... 8 Northgate street  
 Hickman, Miss ..... 17 The Groves  
 Higgins, Miss Eva..... The Manor, Overleigh  
 Higgins, Miss Millie ..... " "  
 Higgins, Mr. W. H..... St. Martin's-in-the-fields  
 Hignett, Mrs. .... 14 Hough green  
 Hignett, Mrs. T. H..... 18 Hough green  
 Hillyard, Rev. Canon, M.A. .... Okeford. Bampton, N. Devon  
 Hincks, Mr. J. W. .... 61 Northgate street  
 Hobday, Mr. J. .... Alexandra villa, Liverpool road  
 Hobday, Mr. E..... " "  
 \*Hodges, Mr. W. .... 31 Hough green  
 Hodgkinson, Mr. E. .... 35 Pepper street  
 \*Holland, Mr. R. .... Mill Bank House, Frodsham  
 Holme, Rev. A. P., M.A. .... The Rectory, Tattenhall

Holmes, Mr. J. G. .... Belmont, Curzon park  
 Hoole, Rev. W. Spooner, M.A. .... Rectory, Thornton-le-Moors, near Chester  
 Hopkins, Mrs. .... 32 Queen street  
 Horabin, Mr. T. .... 16 Newgate street  
 Horton, Mr. H. .... 74 Brook street  
 Hostage, Mr. Geo. B. .... 28 Eaton road  
 Hostage, Mrs. G. B. .... " "  
 Hostage Miss .... 22 Eaton road  
 Howson, Miss .... Egerton House, Upper Northgate street  
 Howson, Miss M. .... " "  
 Howson, Rev. J. F., B.A. .... The Rectory, New Brighton "  
 Hudson, Mrs. R. S. .... Bache Hall, Chester  
 Hughes, Mr. A. H. .... 23 Orchard street  
 Hughes, Mrs. McKenny .... 4 Cintra terrace, Cambridge  
 Hughes, Mr. T., F.S.A. .... Grove terrace, The Groves  
 Hughes, Mr. Thos. Cann, B.A. .... Town Hall, Manchester  
 \*Hughes, His Honour Judge .... Uffington House, Dee hills  
 Hughes, Mrs. .... " "  
 Huke, Mr. J. W. .... 89 Foregate street  
 Humberston, Miss .... Newton Hall, Chester  
 Hutchings, Mr. F. M. .... Eversley park

Jackson, Miss. .... 21 Hough green  
 Jacob, Rev. Joseph .... Whitewell Rectory, Whitchurch (Salop)  
 James, The Very Rev. H. A., M.A. .... The Deanery, St. Asaph  
 \*Jebb, Mr. G. R., C.E. .... Fairfield, Great Barr, Birmingham  
 \*Jeffs, Mr. O. W. .... 8 Queen's road, Rock Ferry  
 Jefferson, Miss .... 38 Bridge street  
 Jephcott, Mr. Charles .... 13 Lorne street (North)  
 Jewell, Rev. F. .... 19 Raymond street  
 Johnson, Major .... 34 King street  
 Johnson, Mrs. .... 11 Bertram road, Sefton park, Liverpool  
 Johnson, Mr. W. .... 29 George street  
 Johnson, Mr. .... St. Paul's School, Boughton  
 \*Johnson, Mr. M., L.D.S.I. .... 9 York villas, Lorne street  
 Jones, Miss G. M. .... 10 Crane street  
 Jones, Miss Maggie .... 1 King's buildings  
 Jones, Mr. H. Watson .... 11 Grosvenor park road  
 Jones, Miss S. H. .... Kingston House, Liverpool road  
 Jones, Mr. A. W. .... 21 Sella street  
 Jones, Mrs. A. W. .... " "

Keartland, Miss .... 2 Egerton terrace, Hoole road  
 Keeling, Miss Alice .... 18 Upper Northgate street  
 Kelly, Miss Nellie .... Trinity street  
 Kenyon, Dr. .... Flookersbrook  
 King, Dr. .... 18 Newgate street  
 King, Miss Edith F. .... " "  
 Kingsley, Miss .... Tachbrook Mallory, Leamington  
 Kingsley, Mr. G. A. .... " "  
 Kirkpatrick, Mrs. .... Ash Grove  
 Knowles, Mr. E. R. .... Grosvenor street

Lacy, Mrs. .... Moor Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. A., Junr. .... " "  
 Latham, Mr. J. S. .... Green Bank, Liverpool road

- \*Lawrence, Dr. A. .... The Asylum, Chester  
 Laycock, Mr. Alfred. .... 12 Linenhall street  
 Lees, Mr. W., M.R.C.S. .... The Infirmary  
 Leigh, Mr. Tim. .... 22 Newgate street  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lightfoot, Mrs. W. M. .... York villas, Liverpool road  
 Lindsay, H. B. Esq. .... 13 Charles street, Berkeley Square, London  
 Lipsham, Mr. F. .... 109 Eastgate street  
 Lloyd, His Honour Judge Horatio. .... 3 Sandown Terrace  
 Lloyd, Mrs. Horatio. .... " " "  
 Lloyd, Mrs. E. .... 24 Eaton road  
 Lloyd, Miss M. E. .... 20 Lorne street  
 Lockwood, Mr. T. M. .... 80 Foregate street  
 Lowe, Mr. G. B. .... 25 Hough green  
 Lowe, Miss C. H. .... " "  
 \*Lowe, Mr. W. F., A.R.S.M., }  
     F.I.C., F.C.S. .... } 21 Granville road, Cambrian view  
 Lowe, Mrs. W. F. .... " " "  
 Lowe, Mr. Jas. F., B.A. .... Dee Banks "  
 \*Lucas, Mr. A. W., F.R.G.S. .... 7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Luxmoore, Mr. E. B., J.P., F.G.S. .... Bryn-Asaph, St Asaph

- Macdonald, Mr. G. .... 67 Bouverie street  
 Manley, Mr. H. .... Aston, Nantwich  
 \*Manning, Mr. J. B. .... The Governor's House, H.M. Prison, Wakefield  
 Manning, Miss Edith .... 18 Upper Northgate street  
 Marsden, Miss .... 6 Grosvenor park road  
 Marsden, Miss E. .... " "  
 Marshall, Mr. W. H. .... 18 Lorne street  
 Martin, Mr. E. .... Cheyney road  
 Massie, Admiral .... 3 Stanley place  
 Massy, Miss .... Mansfield lodge, Hough green  
 McBride, Mr. Chas. .... Barr's Gate street, Boughton  
 McEwen, Mrs. .... 26 Nicholas street  
 \*McKerchar, Mr. J. .... 35 Giesbach rd., Upper Holloway, London, N.  
 Meacock, Mr. Thos. H. .... 11 Bouverie street  
 Milligan, Miss Janet. .... Sealand  
 \*Mills, Mr. John. .... 4 Eastgate row  
 Mills, Mrs. John .... " "  
 \*Miln, Mr. G. P. .... 106 Eastgate street  
 Minshull, Mr. E. .... The Northgate  
 Minshull, Miss .... " "  
 Minshull, Miss C. R. .... " "  
 Montgomery, Rev. J. K. .... Abbot's villas, Liverpool road  
 Moreton, Mr. J. E., F.R.C.S. .... Tarvin  
 Moreton, Mrs. .... "  
 Morris, The Rev. Canon, D.D. .... Eaton, Chester  
 Morton, Mr. G. .... Dodleston, near Chester  
 Mulhern, Mr. R. .... 45 Frodsham street  
 Munns, Mr. J. .... 10 Pepper street

- Newell, Mr. A. Thurman .... Stafford House, Bridge street-row  
 Newstead, Mr. R. .... The Grosvenor Museum  
 Nicholson, Mr. J. M. .... Little Sutton, Chester  
 Nichols, Mr. G. F. .... 12 Chichester street  
 Nutt, Mr. Geo. .... Christ Church Boy's School

- \*Okell, Mr. W. H. .... 1 Northgate street  
 \*Okell, Mr. E. W. .... 22 Northgate street  
 Okell, Miss ..... 6 Curzon park  
 Okell, Miss M. H. .... " "  
 Okell, Miss J. .... " "  
 Okell, Mr. P. H. .... The Cross  
 Oldfield, Mrs. .... 68 Northgate street  
 Oldfield, Miss ..... Bryn Clwyd, St. Asaph  
 Orton, Mr. R. O., J.P. .... Tattenhall  
 Owen, Miss Bessie ..... 18 Queen street  
 Owen, Miss ..... 10 Stanley place  
 Owen, Mr. John ..... Little Sutton
- Palin, Mr. G. F. .... Parr's Banking Co., Eastgate street  
 Paris, Mr. Alfred ..... Northgate street  
 Parker, Mr. Wm. .... National Provincial Bank  
 Parker, Mrs. .... " " "  
 Parkes, Mr. A. .... 19 Curzon park  
 Parkes, Mrs. A. .... " "  
 Parkes, Mr. A. M. .... " "  
 Parnell, Mr. E. W. .... Queen's park  
 Parry, Mr. C. .... 24 Frodsham street  
 Parry, Mrs. C. .... " "  
 Parry, Mr. Gilbert ..... Farndon Hall, Chester  
 \*Parry, Mr. T. S., M.B. .... Upper Northgate street  
 Payne, Miss ..... 4 Abbey green  
 Phillipson, Mr. J. .... 12 Liverpool road  
 Phillipson, Mr. H. G. .... " "  
 Pike, Mr. Horace G. .... Frodsham street  
 Pinches, Mr. Richard ..... 20 Newgate street  
 Podmore, Miss ..... 3 Eastern pathway, Queen's park  
 Porter, Mrs. .... Crowthorne, Childer Thornton  
 Potts, Mr. C. W. .... Heron bridge  
 Potts, Capt. H. J. .... Glanrafon, Mold  
 Potts, Mr. J. .... Thorn Tree House, Chester road, Macclesfield  
 Powell, Mr. E. .... Eastgate row  
 Powell, Mrs. .... Springfield, Neston  
 Preston, Mr. F. M. .... Abbot's Grange, Liverpool road  
 Preston, Rev. G., M.A. .... Abbey square  
 Price, Rev. Elis ..... 56 Watergate street  
 Price, Mr. Paul ..... Bryntirion, Chichester street  
 Price, Mr. Walmsley ..... The Studio, Bridge street row  
 Price, Mrs. Walmsley ..... " " "  
 Prichard, Mr. Geo. .... 10 St. John's road, Queen's park  
 Prichard, Miss ..... " " "  
 Puget, Miss Louisa Du ..... Fernville, Curzon park  
 Pulling, Mr. Edward ..... Victoria Iron Works  
 Pye, Mr. Jas. .... Clovelly House, Eversley park  
 \*Pye, Mr. T. E. .... Commercial Gas Co., Stepney, London, E.
- \*Ramsden, Mr. W. .... *Cheshire Observer*, Eastgate row (North)  
 Rayner, Miss ..... Ash Grove, Wrexham road  
 Ray, Miss ..... 3 Eastern pathway, Queen's park  
 Reade, Mr. Albert Wm. .... 11 Lorne street  
 Reade, Mr. Walter ..... " "  
 Reilly, Mr. Owen ..... 1 Abbey green

Reilly, Mrs. Owen	1 Abbey green
Rhodes, Mrs.	York villas, Liverpool road
Richmond, Mr. G. B.	<i>Courant</i> Office, Northgate street
Roberts, Mr. J.	15 Bridge place
Roberts, Miss	Spring villa, Upton park
Roberts, Miss	Bank Cottage, Neston
Roberts, Miss Annie	14 Stanley place
Roberts, Miss M.	8 Nicholas street
Roberts, Dr.	8 Abbey square
Rogers, Mr. James	The Cross
Rogers, Mr. Jno.	3 Upper Park place, Richmond Hill, Surrey
Rogers, Mr. W.	Watergate House
Rogerson, Mr. G. H.	4 Nicholas street
Rowland, Mr. J.	Pulford, near Wrexham
Royle, Mrs. T. V.	Dingle Bank
Royle, Mr. T. R. P.	Hough Green House
Royle, Mrs. T. R. P.	" "
Rush, Mr. E.	27 Foregate street

Salisbury, Mr. J.	12 Lorne street
Salisbury, Miss E. A.	" "
Sant, Mr. T.	Frodsham
Schröder, Mr. W. G.	22 Chichester street
Schröder, Mr. H.	" "
Scotland, Colonel	Eccleston Hill, Chester
Scott, Mr. John	19 Chichester street
Segar, Mr. F.	8 Abbey street
Seguin, Mons. André	36 King street
Selwood, Mr. T.	Eaton Gardens, Chester
Sharpe, Mr. F. W.	Newton House, Chester
Shaw, Mr. R. G.	Bridge street
*Shepherd, Mr. T., F.R.M.S.	Kingsley Lodge, Liverpool road
Shepherd, Miss	" " "
Shepherd, Miss Emma	" " "
Shepherd, Miss Annie	" " "
Shepherd, Mr. Wm.	" " "
*Shone, Mr. W., F.G.S.	Upton park
Shone, Mrs. W.	"
Shrubsole, Mr. Alfred	Town Hall square
Silk, Mr. Chas.	Mount Pleasant, Saltney
*Siddall, Mr. J. D.	19 Eaton road
Siddall, Mrs.	"
Simpson, Mrs.	77 Parkgate road
Small, Mr. A. H.	3 Deva terrace
Smallpeice, Miss	The High School, Dewsbury
Smith, Mr. T.	Blacon Point, Chester
Smith, Mrs. S.	16 Nicholas street
Smith, Miss H.	Hampton Lodge, Liverpool road
Smith, Miss Fanny	" " "
Smith, Mr. F.	Beechwood House, 10 Canal street
Smith, Miss F.	" " "
Smith, Miss L.	" " "
Smith, Mr. John	Market square
Smith, Mr. Harry	Eversley park
Smythe, Miss	Barrowmore Hall, near Chester
Snelson, Miss S.	22 Pepper street

Spencer, Mr. Walter A. ....	Barrel Well, Boughton
Spencer, Mrs. ....	36 Bridge street
Spencer, Mr. J. H. ....	" "
Spencer, Mrs. J. H. ....	" "
Spooner, Miss ....	Newton Cottage, near Chester
Stevenson, Mr. A. ....	Grosvenor park road
Stevenson, Mr. Fletcher W. ....	Undercliffe, Lumley road
Stewart, Mrs. ....	39 White friars
*Stolterfoth, Dr., M.A. ....	60 Watergate street
Stolterfoth, Mrs. ....	" "
Stolterfoth, Miss ....	" "
Storr, Mr. ....	21 The Groves
Storr, Miss ....	" "
Storarr, Miss S. ....	Newgate street
Storarr, Mrs. Andrew ....	5 Victoria pathway, Queen's park
*Strahan, Mr. Aubrey, M.A., F.G.S. {	H.M. Geological Survey, Museum, Jermyn street, London, S.W.
Stubbs, Mrs. ....	The Palace, Dee side
Summers, Mr. E. ....	1 South view, Tarvin road
Sumner, Mrs. A. ....	4 Grosvenor place
Tabor, Mr. J. ....	Church street, Upper Northgate street
Tait, Mrs. ....	31 Pepper street
Tait, Miss ....	" "
*Tate, Mr. A. Norman, F.I.C. ....	9 Hackin's Hey, Liverpool
Tatler, Mr. R. E. ....	Woodbine cottage, Louise street
Tatler, Mr. A. ....	" " "
Tatlock, Mr. J. ..	21 Saint John street
Taylor, Mr. J., F.R.C.S. ....	18 Newgate street
Taylor, Mr. A. G. ....	78 Watergate street
Taylor, Mrs. ....	Meadow view, Dee banks
Taylor, Mr. J. B. ....	4 Hough green
Taylor, Mr. R. Mascie ....	Tyn Llwyn, Corwen
Tennant, Mrs. ....	City walls (South)
Tennant, Miss ....	" "
Thomas, Mr. E. ....	18 Pepper street
Thomas, Dr. E. J. Haynes ....	" "
Thomas, Mr. Frank P. Dodd ....	" "
Thomas, Miss M. ....	" "
Thomas, Miss F. M. ....	" "
Thomas, Mr. Maurice ....	1 Coal Exchange
Thomas, Mr. Felix ....	The Industrial Schools, Boughton
Thomas, Miss Elizabeth ....	" " "
Thompson, Mr. J., J.P. ....	Boughton Hall
Thompson, Mrs. J. ....	" "
*Thompson, Mr. W. ....	41 Frodsham street
Thompson, Mrs. H. ....	Curzon park
Thomson, Miss I. ....	Cambrian view
Tilston, Miss ....	1 King's buildings
Timothy, Mr. H. J. ....	Eccleston, Chester
Tinkler, Mr. G. ....	45 Nicholas street
Tomlin, Mrs. ....	Thorpe villa, Liverpool road
Tomkinson, Mr. Jas., J.P. ....	Willington Hall, Chester
Townshend, Mr. C. W. ....	Trevallyn, Wrexham
Trafford, Mr. Alfred R. ....	18 Lorne street
Trelawny, Mr. H. D., J.P. ....	Shotwick park, Chester
Trelawny, The Hon. Mrs. ....	" "

Utting, Miss .... 18 Upper Northgate street



*Vincent, Mr. W. ....	Brook lane
Vincent, Mrs. W. ....	" "
Vine, Rev. A. H. ....	1 Egerton terrace
Wakefield, Mr. T. ....	1 Parkgate road
*Walker, Mr. A. O., J.P., F.L.S. .	The Leadworks, Chester
Walker, Mrs. A. O. ....	" "
Walker, Mr. F. A. ....	19 Newgate street
Walker, Miss. ....	12 Liverpool road
Walley, Miss. ....	51 Bouverie street
*Ward, Mr. J. C. ....	11 Hough green
Ward, Miss. ....	" "
Ward, Miss. ....	Abbot's villas, Liverpool road
*Waters, Dr., J.P. ....	Nicholas street
Way, Mr. N. A. E. ....	76 Watergate street
Weaver, Mr. W. M. ....	Westminster buildings
*Webster, Mr. G. Watmough, F.C.S. .	5 Eversley park, Liverpool road
Webster, Miss Amy B. ....	52 Watergate street
Webster, Miss Janet. ....	" "
Wells, Mr. E., Junr. ....	Eccleston, Chester
Welsby, Mr. Walter. ....	6 Queen's park
Welsby, Mrs. Walter. ....	" "
Whaley, Mr. S. ....	1 Crane street
White, Miss E. ....	5 Abbey street
Whiteley, Mr. F. ....	Helsby, Chester
Whittington, Mr. R. C. A. ....	13 Abbey street
Wilbraham, Miss E. ....	5 King's buildings
Wilbraham, Miss F. ....	" "
Wilcock, Mr. T. M. ....	24 St. Martin's-in-the-fields
Wilkinson, Mr. R. ....	7 Upper Northgate street
Wilkinson, Mr. C. ....	47 Watergate street
Williams, Miss. ....	Blacon House
Williams, Miss S. ....	" "
Williams, Mr. J. E. ....	61 Upper Northgate street
Williams, Mr. T. ....	6 Northgate street
Williams, Rev. Watkin, M.A. .	Bodelwyddan, nr. Rhyl
Williams, Mr. R. J. ....	12 Brunswick buildings, Liverpool
Williams, Mr. J. R. ....	Dorchester House, Boughton
Williams, Mr. C. R. ....	The Mount, Waverton
Williams, Mr. Jas. ....	Fern Cottage, 56 Tarvin road
Willis, Mr. G. ....	Bunbury, Chester
Wiseman, Mr. C. ....	The Poplars, Dee banks
Wiseman, Mr. Henry. ....	" "
Wood, Mrs. ....	28 Queen street
Wood, Miss. ....	" "
Woodfin, Miss. ....	26 Lorne street
Wright, Mr. John. ....	63 Bouverie street
Yeadon, Mr. Thos. ....	28 St. Anne street

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*The following Books have been added to the Library since  
the last Annual Report was issued :*

### BOTANICAL SECTION.

- B 182 De Bary (A.) Comparative Anatomy of the Vegetative Organs of the Phanerogams and Ferns 1884  
B 183 Vine's (S. H.) Lectures on the Physiology of Plants ..... 1886

### GEOLOGICAL SECTION.

- G Callaway (C.) On some Derived Fragments in the Longmynd and Newer Archæan Rocks of Shropshire ..... 1886  
G Deeley (R. M.) The Pleistocene Succession in the Trent Basin ..... 1886  
G 154 Geological Magazine, 1881 to 1885, 5 vols. *Presented by Major Taylor* .....  
G Hicks (H.) Further Proofs of the Pre-cambrian Age of certain Granitoid Felsitic and other Rocks in N. W. Pembrokeshire ..... 1886  
G Hicks (H.) Report of the Committee appointed for the purpose of exploring the Caves of North Wales ..... 1886  
G Hicks (H.) The Cambrian Rocks of North America ..... 1887  
G Hicks (H.) The Faunas of the Ffynnon Beuno Caves, and of the Norfolk Forest Bed..... 1887  
G Jeffs (O. W.) Note on the occurrence of Copper in the Keuper Sandstone at the Peckforton Hills, Cheshire ..... 1886  
G 155 Phillips' (J.) Manual of Geology, Practical and Theoretical. *Presented by Major Taylor* ..... 1855  
G 95 Proceedings of the Liverpool Geological Society, Part 2, Vol. V. .... 1886  
Transactions of the Liverpool Geological Association, Vol. VI..... 1885-86

GEOLOGICAL SECTION—*Continued.*

- G 116 Transactions of the Manchester Geological Society, Vol. XIX., Parts 1 to 13 ..... 1887
- G 82 Vol. XL. of the Palæontographical Society, issued for the year 1886, containing—
1. Williamson's *Stigmara Ficoides* .....
  2. Hinde's Fossil Sponges, Part I.....
  3. Hudleston's Jurassic Gasteropoda, Part I., No. 1.
  4. Buckman's Inferior Oolite Ammonites, Part I ..
  5. Dawkins's Pleistocene Mammalia, Part 6 ..... 1887

## MICROSCOPICAL SECTION.

- M Transactions and Annual Report of the Manchester Microscopical Society for 1885 & 1886, 2 parts ..... 1886-87

## MISCELLANEOUS.

- Annalen des K. K. Naturhistorischen Hofmuseums*  
*Redigirt von Dr. Franz Ritter von Hauer,*  
*Vienna* ..... *Band I., Nr. 3* 1886
- Ditto ditto ditto Band I., Nr. 4* 1886
- Ditto ditto ditto Band II., Nr. 1* 1887
- Ditto ditto ditto Band II., Nr. 2* 1887

- X 99 Annual Report and Transactions of the North Staffordshire Naturalists' Field Club and Archæological Society ..... 1886
- X 107 Annual Report of the Board of Regents of the Smithsonian Institution for 1884 ..... 1885
- X 121 Annual Report of the British Association.  
*Presented by S. Rigby, Esq., J.P.* ..... 1885
- X Annual Report of the Menai Society of Natural Science and Literature 1886-87..... 1887
- X 49 *Bericht des Vereines für Naturkunde Zu Cassel,*  
*(XXXI. to XXXIII.)* ..... 1884 to 1886
- „ *Festschrift des Vereins für Naturkunde Zu Cassel.* 1886
- Henry Draper Memorial, First Annual Report of the Photographic Study of Stellar Spectra, conducted at the Harvard College Observatory, U. S. A. .... 1887

MISCELLANEOUS—*Continued.*

- Mémoires de la Société des Naturalistes de Kiew,*  
*Tome VIII., Livraison 2.....* 1887
- X 27 Proceedings and Transactions of the Natural  
 History Society of Glasgow, Vol. I., (New  
 Series) Part 3, 1885-86 ..... 1887
- Proceedings of the Bristol Naturalists' Society,  
 New Series, Vol. V., Part 1 ..... 1886
- X 24<sup>g</sup> Proceedings of the Literary and Philosophical  
 Society of Liverpool, Vol. XXXIX. .... 1884-85
- X 24<sup>h</sup> Ditto ditto Vol. XL. .... 1885-86
- X 26 Proceedings of the Liverpool Naturalists' Field  
 Club for 1885-86.... ..... 1886
- X 104 Proceedings of the Royal Society, Nos. 246 to  
 250..... 1886-87
- Report and Proceedings of the Manchester Field  
 Naturalists and Archæologists' Society for 1885 1886
- X 30 Report and Proceedings of the Manchester  
 Scientific Students' Association for the year 1885 1886
- X 30 Ditto ditto ditto for 1886 ..... 1887
- Rochdale Field Naturalists' Journal .....
- X 122 The Life and Works of Thomas Graham, D.C.L.,  
 F.R.S. .... 1884
- The Monthly Parts of "The Naturalist" .....
- Transactions and Report of the Nottingham  
 Naturalists' Society ..... 1886
- X 36 Transactions of the Essex Field Club, 4 Parts .. 1886-87
- X 108 Transactions of the Yorkshire Naturalists' Union,  
 Part 9, for 1884 ..... 1886



3 AUG 1887













# Chester Society of Natural Science

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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## SEVENTEENTH ANNUAL REPORT

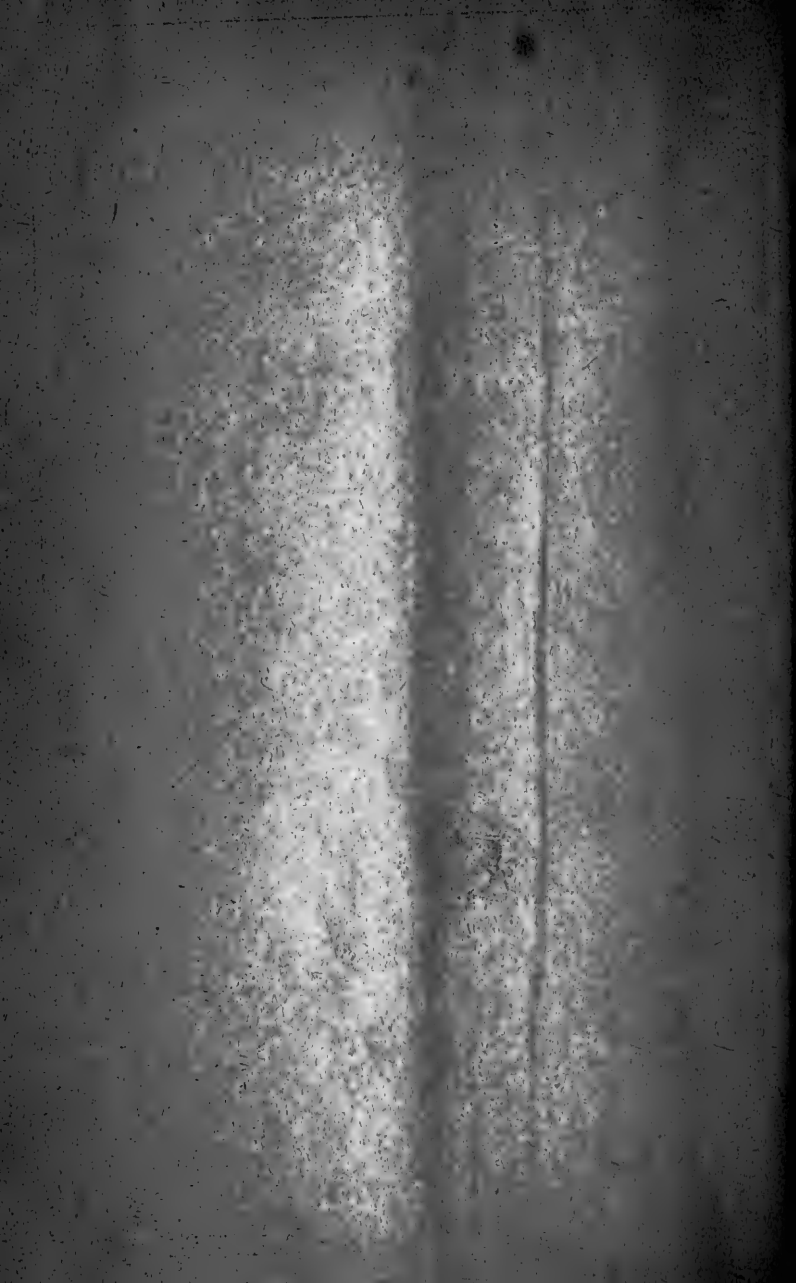
AND  
STATEMENT OF ACCOUNTS,  
FOR THE YEAR 1887-8.



CHESTER:

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MDCCCLXXXVIII



# Chester Society of Natural Science

(Founded by Charles Kingsley, 1871.)

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## SEVENTEENTH ANNUAL REPORT

AND

*STATEMENTS OF ACCOUNTS for 1887-88,*

AND THE

**LIST OF MEMBERS FOR 1888-89,**

ALSO

A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION.

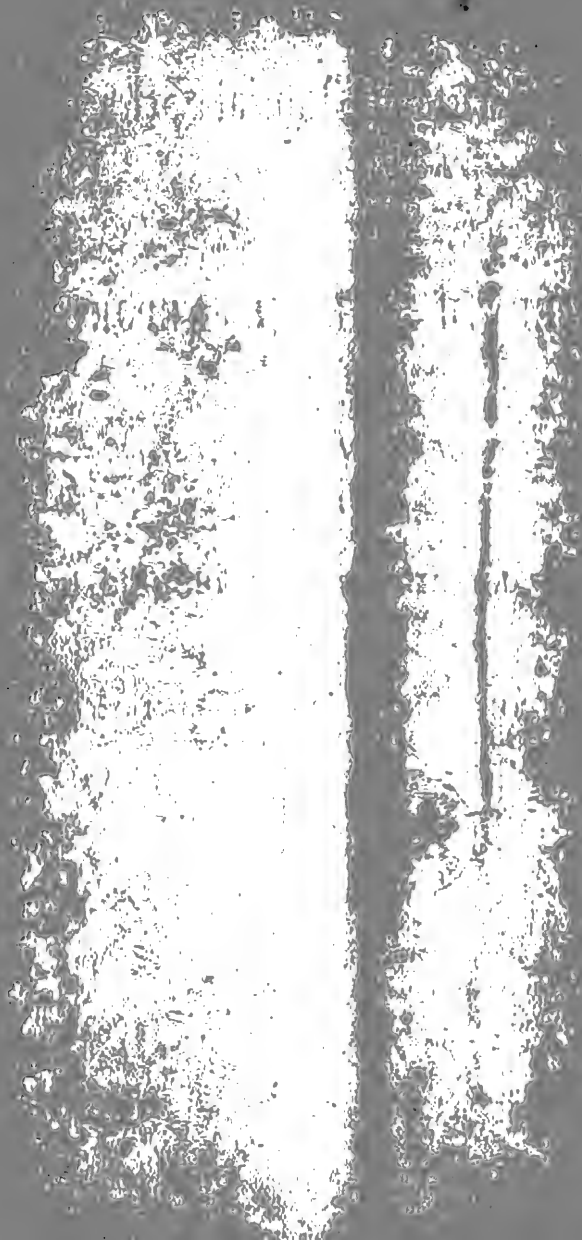


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MDCCCLXXXVIII.



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SECRETARY—MR. E. W. COWAN, A.M.I.C.E. ... .. *Victoria Iron Works.*

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AND

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REV. A. H. FISH, B.A., B.Sc.  
MR. JOHN GRIFFITHS

MR. F. F. HICKMAN  
MR. M. JOHNSON, L.D.S.I.  
DR. H. W. KING

## Hon. Auditors :

MR. J. ROWE DUTTON.

MR. W. VINCENT.

## Curator :

MR. R. NEWSTEAD, *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science*," and that its object be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in the Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee, previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting, which shall be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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IN presenting the Seventeenth Annual Report of the Chester Society of Natural Science, the Committee have the pleasure of stating that the number of Members now on our list amounts to 619.

During the past year we have lost by death two Honorary Members—JOHN PRICE, ESQ., M.A., and the REV. W. S. SYMONDS, F.G.S. MR. PRICE was connected with our Society from its foundation, and was one of the founders of a still older Natural History Society, from which our present Society is an outcome. His loss to our Society is great. He was held in reverence by all who knew him, and his wonderful powers of observation, his retentive memory, combined with his high intellectual attainments, rendered whatever he brought before the Society a source of delight as well as profit. His Papers will be treasured even by those who had not the privilege of hearing them. As a Society we desire to record our deep respect and gratitude to one who by his genial nature drew out the trust and affection of old and young, while we hope to keep his memory green by following in his footsteps, as accurate, painstaking, and reverent students in the fields of nature.

The Society has now occupied the Grosvenor Museum for nearly two years, and has found the building admirably suited to its requirements. The new premises have certainly added immensely to the general comfort and to the efficiency of the Society. A new Section was organised after our last Annual Meeting -- the Photographic Section. It has done good work during the past year, and it numbers amongst its Members many practical workers. This Section will be a source of strength to the Society, for the wonderful advance made by amateurs in this department must tell eventually on all scientific records.

The local Museum has to a certain extent been re-arranged. A large Insect Cabinet has been presented to the Society, in which there is ample space for all local species, and contributions are earnestly solicited. Many new and beautiful specimens have been added. We are indebted for much good work to our excellent Curator, MR. R. NEWSTEAD, who will place before you his report of what has been done and the various donations we have received, for several of which we are indebted to HIS GRACE THE DUKE OF WESTMINSTER, MR. A. O. WALKER, MR. NIXON, &c.

A portrait of CHARLES KINGSLEY, by MR. WALMSLEY PRICE, was purchased by some of our Members and presented to the Society, and is now in our Museum.

The Library has been increased both by donations and purchases, and is in good order, thanks to our Honorary Librarian and to MR. W. H. OKELL.

The Free Library of the City has also kindly placed at our disposal for circulation some of the newer scientific works, which are thus rendered available at a centre where they are fully appreciated, as is shown by the number of applications made for their use.

Great activity has been shown in the Botanical Section, which, under the new officers, seems likely to make good progress. The Society's Herbarium is being carefully arranged and put in order. The Botanical Garden in the Grosvenor Park is to be laid out afresh, but owing to the very late spring, and the continuance of snow and frost, this has been much delayed. A change in the run of the paths has somewhat curtailed the ground, but there is still sufficient space to display the principal orders, and by means of annuals it is hoped to make the borders attractive.

Our Honorary Treasurer, MR. MILLS, will read you the Balance Sheet of our Accounts, which the Committee trust will be found satisfactory to the Members.



The Honorary Treasurer to the Kingsley Memorial Fund, MR. E. J. BAILLIE, will place before you the Balance Sheet of this Fund.

The general work of the Society may be summarized under the following heads—

|                  |                    |
|------------------|--------------------|
| EXCURSIONS       | SECTIONAL MEETINGS |
| EVENING RAMBLES  | CONVERSAZIONE      |
| GENERAL MEETINGS | PRIZES             |
| FIELD CLASSES    |                    |

The following excursions were made in the past summer :—

|                                                               |            |
|---------------------------------------------------------------|------------|
|                                                               | 1887.      |
| Hooton Park and Woods .....                                   | June 2nd.  |
| Vyrnwy Valley .....                                           | June 24th. |
| Storeton Woods and Quarries .....                             | July 19th. |
| Llangollen .....                                              | July 23rd. |
| Botanical Gardens and Jubilee Exhibition,<br>Manchester ..... | Aug. 15th. |
| Eaton (with the British Association) .....                    | Sept. 8th. |

The first excursion was twice deferred owing to wet weather. The excursion to the Vyrnwy Valley was on a splendid day. Fine weather and a good party. Our President and MR. RUDDY acted as leaders, and we had the privilege of seeing one of the wildest parts of N. Wales. The aspect of the country will in a short time be entirely changed, as a large artificial lake is in process of construction with a view to the water supply of Liverpool. We spent another interesting day at Storeton, when MR. OSMUND W. JEFFS conducted the party, and pointed out the peculiarities of the Bunter and Keuper formations. The Photographic Section had a special visit to Llangollen. On the whole the excursions were not well attended, but this may be accounted for by the many attractions of the Manchester Exhibition and other incidental interests connected with the Jubilee Year of Her Majesty's reign. A few Evening Rambles were arranged, and an effort was made to combine with them Field Classes. These, however, were only partially successful.

but the idea is good, and may perhaps be better carried out in the future. The Evening Entomological Class, conducted by MESSRS. R. NEWSTEAD and ARKLE, did fairly well.

The Annual *Conversazione* was held somewhat earlier than usual, namely, on September the 8th. This was arranged in order that our President might be with us, who was attending the Meeting of the British Association at Manchester. The Association made a visit to Chester a special feature of their proceedings. The Management Committee of the Grosvenor Museum placed the whole building at our disposal for the occasion. The Art Rooms at the top of the building were utilized for the display of Microscopes, which again afforded as much interest and proved as attractive as in the old days when we had the Council Chamber at the Town Hall. The gathering in the evening was unique, and will be long remembered, owing to the presence of the many distinguished scientific foreigners, who came with the British Association. We had the privilege of electing three of them as Honorary Members—DR. STERRY HUNT, Montreal; PROFESSOR VILLANOVA-Y-PIERA, of Madrid; and ABBÉ RENARD, Belgium. There were also present PROFESSOR STORMS, Berlin; PROFESSOR TIRKEL, Sweden; MONS. GREVEN, Belgium; DR. OTTO JARELL, Sweden; MONS. LOHOST, Director of the Liege University; and SIR ROBERT S. BALL, Astronomer Royal of Ireland. There were many interesting speeches made, and our foreign friends paid us the compliment of showing the interest they took in the English language and in English thought, by addressing us in our own language. The Kingsley Memorial Medal was on this occasion presented to MR. W. SHONE, F.G.S., by our President, who spoke most highly of the Geological work done by MR. SHONE, especially in relation to the Boulder Clay of the neighbourhood. The Kingsley Memorial Prize was given to MR. J. LYON DENSON for his Notes and Observations with respect to the Natural History of the District. The Rooms and Exhibition were kept open for a second evening, giving an opportunity for a more

thorough examination of the various exhibits, of which very many gladly availed themselves. During the evening MR. H. ADKINS gave a short Lecture on the Falls of Niagara, and exhibited some splendid photographs.

During the past winter the following General Meetings have been held and Papers read—

1887.

Oct. 27—"Grotesque Insects," by JOHN W. ELLIS, ESQ., L.R.C.P.

Nov. 24—"Paper Negatives and Stripping Films," by E. W. PARNELL, ESQ., F.C.S.

1888.

Jan. 5—"Bones of Contention in the Vale of Clwyd," by the PRESIDENT.

Jan. 28—"The Law of the Conservation of Energy and its application to the study of Plant Life," by R. J. HARVEY GIBSON, ESQ. (University College, Liverpool.)

Feb. 23—"Flame," by DR. JAMES J. DOBBIE (University College, North Wales.)

April 26—Annual Meeting.

It will be seen that there have been six General Meetings, which on the whole have been well attended. The Lecture by PROFESSOR HARVEY GIBSON was one of exceptional interest on account of the originality of the views advanced and the study and observation on which they were founded. Several new names appear amongst those who have given us lectures, and our best thanks are due to all who thus come forward and take the trouble to impart to us of their stores of information.

Although the Society consists of six Sections, one Section, the Microscopic, has not met for the reading of Papers during the past winter. The Microscope is properly an aid to investigation in almost every field of Natural Science, and the Members who especially devote themselves to Microscopic work hold themselves ever ready to come forward when help is needed. The other Sections have met as follows—

1887.

#### ZOOLOGICAL SECTION.

Nov. 3—"Notes of a Naturalist," by the Curator, MR. R. NEWSTEAD.

Dec. 15—"Review of the past Season," by MR. A. O. WALKER, *Chairman*.

1888.

Feb. 9—"Holiday Notes in Scotland and Norfolk," by W. H. DOBIE, ESQ., M.B.

## 1887. PHOTOGRAPHIC SECTION.

Nov. 9—"Lantern Slides on Dry Plates," by MR. F. EVANS.

Dec. 1—Exhibition of Negatives and Lantern Slides by the MEMBERS.

Dec. 16—"Enlarging," by MESSRS. E. W. COWAN and W. J. P. FAWCUS.

1888.

Jan. 19—"Picturesque Glimpses of Italy," by MR. G. E. THOMPSON, Liverpool.

Mar. 3—"Light and Colour," by the REV. A. H. FISH, B.A., B.Sc.

Mar. 22—"Composition," by MR. T. WALMSLEY PRICE.

1887.

## GEOLOGICAL SECTION.

Nov. 10—"The Origin and Age of the World in which we live," by MR. A. W. LUCAS, F.R.G.S., *Secretary*.

1888.

Feb. 16—"The Composition of the Crust of the Earth-Rocks—Igneous, Volcanic, Metamorphic, Aqueous," by MR. A. W. LUCAS, *Secretary*.

Apr. 12—"Colorado and Yellow Stone," by MR. ARTHUR RIGG.

## NATURAL PHILOSOPHY SECTION.

Jan. 12—"An Elementary Chapter in Astronomy, with special reference to the present so-called Star of Bethlehem," by MR. W. VINCENT.

Mar. 15—"Explosives in Coal Mines: how Caused and how Prevented," by MR. E. LLOYD ROBERTS.

Apr. 19—"Electrical Discoveries by Benjamin Franklin," by MR. E. W. COWAN.

1887.

## BOTANICAL SECTION.

Dec. 8—"Reminiscences of the late Mr. John Price," by MR. E. J. BAILLIE, F.L.S., *Secretary*.

1888.

Feb. 2—"The past and future work of the Section," by MR. J. D. SIDDALL, *Chairman*.

Mar. 1—"The Spring Phenomena of Plant Life," by MR. ROBERT HOLLAND.

The Sectional Meetings have been better attended this winter than they have been for some years past. This may be partly owing to the fresh spirit which has been infused by several new Members coming forward to read Papers; and the quality of all the Papers has been very encouraging. They have been well illustrated both by specimens, diagrams, and photographs. The Photographic Section has shown its energy by meeting six times during the past winter, and by explaining and showing the working of the technical side of photography has, we think, stimulated many of our scientific friends to take an interest in

the subject. We must here mention that during the last three months there has been a change in our method of giving out the Notices of our Meetings. You are all aware that our Society is only one of the several Societies who meet in the Grosvenor Museum, and it has been thought that the labour of the different Secretaries might be economised if one Paper contained all the Notices. A small Paper called "Chester Societies" has therefore been started. It contains all the Notices of the different Societies and such other local matter as may be of interest to those connected in any way with the Grosvenor Museum. Its price per annum is 2/6, and we call special attention to the subject, as your Committee are anxious that the plan should succeed, and that it should have the support of our Members. Those, however, who are not disposed to subscribe will have their Notices regularly on the notice sheet portion of the Paper.

Your Committee has met seventeen times during the past year to carry on the executive work of the Society, and they trust that what they have done will meet the approval of the Members. We feel now that our Society is established in so commodious a building and with a local Museum, that no effort will be wanted on the part of our Members to render it as complete as possible; and if all will try to do something during the coming year, we may hope to place our local knowledge on a firmer basis, and perhaps add in a measure some contribution to general science.

HENRY STOLTERFOTH, M.A., M.D.,  
*Scientific Secretary.*

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The following Photographic Papers may be found on the Library table for use of Members:—

British Journal of Photography;  
The Amateur Photographer;  
The Photographic News;  
The Camera;

together with various Scientific Papers and Periodicals.

## CURATOR'S REPORT FOR 1887-88.

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THE CURATOR has much pleasure in submitting a list of objects added to the Grosvenor Museum during the last year. They are chiefly insects and birds—many being rare, and several new to the district. All the additions belong to the following Orders—Polyzoa, Hydrozoa, and Crustacea, and have been collected by MR. A. O. WALKER, F.L.S., except the “Spiny Lobster” (*Palinurus vulgaris*), which was purchased from a Student at the King’s School. The collection of Lepidoptera is in a very untidy condition, as most of the specimens had to be moved to allow of the drawers being fitted up with glass lids and frames. This collection will be re-arranged and spaces left for new additions. Many good species have been added, three of them being new to the district. The Coleoptera have been arranged in the beautiful Cabinet presented by MR. A. O. WALKER, and spaces are left for new additions, which will prevent any further trouble in re-arranging. MR. NIXON kindly placed at our disposal the whole of his collection of local Coleoptera, numbering about 120 species. MR. B. TOMLIN and MR. A. O. WALKER are working very hard for us—they are constantly bringing in new additions.

Several life histories of various injurious insects have been prepared, and prove both interesting and educational. SIR PHILIP CUNLIFFE OWEN, K.C.B., has kindly sent us down a very valuable set of diagrams, illustrating the life histories of injurious and beneficial insects, with spaces to fill up with the actual specimens. Portions of infested trees, plants, &c., will be gladly received.

Several species have been added to the Mollusca, and we are greatly indebted to MR. B. TOMLIN, not only for his additions, but also for the trouble he has taken to name and mount most of the species sent in during the past year. MRS. MCKENNY HUGHES and MR. A. O. WALKER have also added several new species. Nine species of fish have been added, but I regret to say that the Greater Fork-beard (*Physis furcatus*), presented by MR. PARRY EVANS, was totally unfit for preserving, it was so bruised and almost denuded of its

scales by the children who were found playing with it. The others worthy of note are the Carp and the Perch, the former weighed 9lbs, the latter 1lb 6oz.

The following Cases, illustrating the life history of birds—all mounted with their natural surroundings—have been placed in the centre of the Museum, and prove of great interest to the general public :—

- Case No. 2.—Swallow (*Hirundo rustica*).  
Mounted with section of Shippon.
- „ 3.—House-Martin (*Hirundo urbana*).  
Mounted with section of Brickwall, &c.
- „ 4.—Corncrake (*Orex pratensis*.)
- „ 6.—Skylark (*Alauda arvensis*.)
- „ 7.—Little Grebe (*Podiceps minor*.)
- „ 11.—Magpie (*Pica caudata*.)

Six other life histories of birds are now in preparation, viz., the Heron, Sparrow Hawk, Wild Duck, Starling, and Jackdaw, presented by HIS GRACE THE DUKE OF WESTMINSTER. The Heron, no doubt, will prove of great interest to the Art Student as well as to the general public. MR. C. SMITH has obtained the Moorhen in all its stages, which will be very interesting when displayed.

Nothing worthy of note has been added to the Mammalia except a young Otter, which was purchased.

No additions have been made to the local geological collections. In the teaching department, MR. A. W. LUCAS, F.R.G.S., has partly arranged the non-local fossils, &c., in the oak cabinet presented by SIR PHILIP EGERTON, BART. The minerals have been removed from this cabinet, and arranged in the Laboratory by MR. W. F. LOWE, for teaching purposes. MR. LOWE and MR. LUCAS have added several minerals of interest.

We are indebted to the following gentlemen for the loan of books to name the various specimens sent in :—MR. A. O. WALKER for “Spry and Shuckard, Rye and Cox’s Vols. I. and II. on Coleoptera”; MR. THOS. SHEPHEARD, “Morris’s British Birds”; DR. STOLTERFOTH, for “Miss Ormerod’s Injurious Insects”; and DR. H. DOBIE for “Anatomy of Birds, &c., by Prof. Beddard.”

The skeletons of the Frog and Crayfish have been mounted, the parts being named for the use of Students in Biology.

# LIST OF ADDITIONS.

## RHIZOPODA, HYDROZOA, POLYZOA, ECHINODERMATA, CRUSTACEA, &c.

By Mr. A. O. Walker—

*Orange Sponge*  
*Garveia nutans*  
*Lafoea*  
*Coppinia arcta*  
*Bicellaria ciliata*  
*Campanalaria flexuosa*  
     " *verticellata*  
*Scrupocellaria cruposa*  
*Calycella syringa*  
*Pagurus cuanensis*  
*Hymeniacion subereus*  
*Porcellana platycheles*  
*Halecium Beanii*  
*Malmgrenia castanea* from *Astro-*  
     *pecten irregulare*  
*Ebalia Pennanti* (Leach)

By Mr. A. O. Walker—

*Ebalia tumefacta*  
*Porcellio scaber* (Latr)  
*Portunus arcuatus*  
*Portunus latipes*  
*Oniscus asellus*  
*Ophiura albida*  
*Aglaophenia pluma* (Linn)  
*Obelia geniculata* (Linn)  
     " *longissima*  
*Alcyonium digitatum*  
*Hippolyte varians*  
*Cucumeria pentactes*  
*Idotea tricuspidate*  
*Bugula turbinata*  
*Bowerbankia imbricata*

## ORTHOPTERA.

2 Species.. .. By Mr. A. O. Walker, F.L.S.

## HYMENOPTERA (Bees.)

Number of  
Specimens.

|   |                                         |    |    |                     |
|---|-----------------------------------------|----|----|---------------------|
| 3 | <i>Bombus lapponicus</i>                | .. | .. | By Mr. A. O. Walker |
| 3 | <i>Megachile circumcincta</i> and cells | .. | .. | J. Lyon Denson      |
| 2 | <i>Bombus senilis</i>                   | .. | .. | R. Newstead         |

## LEPIDOPTERA (Moths and Butterflies.)

|   |                            |    |    |                 |
|---|----------------------------|----|----|-----------------|
| 6 | <i>Chelonia caja</i>       | .. | .. | By Mr. J. Arkle |
| 4 | <i>Epinephele tithonus</i> | .. | .. | " "             |
| 2 | <i>Polia chi</i>           | .. | .. | " "             |
| 1 | <i>Lithosia complanula</i> | .. | .. | A. O. Walker    |
| 1 | <i>Bombyx quercus</i>      | .. | .. | J. Lyon Denson  |

By Mr. R. Newstead—

Number of  
Specimens.

1 *Pieris napi* (var.)  
 6 *Lycæna Egon*  
 7 *Canonympha davis*  
 2 *Thecla rubi*

By Mr. R. Newstead—

Number of  
Specimens.

2 *Aspilates strigillaria*\*  
 1 *Eucosmia undulata*  
 4 *Fidonia piniaria*  
 2 *Ellopiia fasciaria*

\* New to district.



## LEPIDOPTERA—Continued.

By Mr. R. Newstead—

Number of  
Specimens.

- 2 *Platypteryx falcata*  
 4 *Macaria liturata*  
 1     "   *dark* (var.)  
 3 *Pacilocampa populi*  
 4 *Euthemonia russula*  
 1 *Arctia fuliginosa*  
 1 *Thyatira batis*  
 2 *Acronycta Psi*  
 6 *Apamea unanamis*  
 1 *Dasypolia templi*  
 2 *Aplecta nebulosa*  
 1 *Macroglossa stellatarum*  
 1 *Dicranura vinula*  
 1 *Scopelosoma satelletia*  
 2 *Plusia chrysitis*  
 1 *Mamestra furva*  
 1 *Anartz myrtilli*  
 2 *Noctua plecta*  
 1 *Taeniocampa cruda* (var.)  
 2 *Agrotis porphyrea*  
 3 *Hadena proteus*  
 10 *Cidaria testata*  
 4 *Epione Apiciaria*  
 5 *Cidaria russata*  
 4 *Ennomos tiliaria*  
 3 *Crocallis elinguaris*  
 5 *Noctua xanthographa*  
 1     "   *rubi*  
 1 *Himera pennaria*  
 2 *Gonopteryx libatrix*

By Mr. R. Newstead—

Number of  
Specimens.

- 1 *Charæas graminis*  
 1 *Tryphena lantolina*  
 1 *Leucania phragmitidis*  
 4 *Nonagria typhae*  
 3 *Hydræcia micacea*  
 4 *Amphiphyra tragopogonis*  
 2 *Cirrædia xerampelina*  
 6 *Xanthia cerago*  
 2 *Cosmia trapezina*  
 1 *Apamea nictitans*  
 1 *Anchocelis lunosa*  
 6     "   *pistacina*  
 1 *Phygalia pilosaria*  
 1 *Cymatophora duplaris*  
 1     "   *flavicornis*  
 3 *Nyssia hispidaria*\*  
 Series *Hybernia leucophearia* (dark  
       vars.)  
 3 *Hybernia progemaria*  
 2     "   *defoliaria*  
 1     "   *rupicapraris*  
 4 *Chimatobia brumata*  
    *Life History of Phygera*  
       *bucephala*  
 2 *Halias prasinana*

By Master Alured Williams—

- 1 *Larva of Acronycta leporina*

## COLEOPTERA (Beetles.)

By Mr. Nixon, Manley, Cheshire—

- 1 *Carabus nemoralis*  
 1     "   *granulatus*  
    "   *catenulatus*  
 2 *Harpalus ruficornis*  
 1 *Liopus nebulosus*  
 1 *Cryptorhynchus lapathi*  
 4 *Serica brunnea*  
 119 Other species

By Mr. A. O. Walker—

- 2 *Rhagium bifasciatum*  
 1 *Blaps mucronata*  
 1 *Chrysomela gættigenensis*  
 1     "   *sanguinolenta*  
 1 *Timarcha lœvigata*  
 6 *Aleochara fuscipes*

By Mr. A. O. Walker—

- 6 *Omalium rivulare*  
 4 *Anthicus floralis*  
 3 *Apion ulicis*  
 1 *Thyamis lurida*  
 1     "   *fuscicollis*  
 85 Other species.

By Mr. B. Tomlin—

- 1 *Demetrias atricapillus*  
 1 *Aphodius rufipes*  
 2     "   *conspurcatus*  
 4     "   *scybalarius*  
 5 *Ægialia arenaria*  
 6 *Elater balteatus*  
 8 other species

\* New to district.

## COLEOPTERA—Continued.

By Mr. J. Arkle—

Number of  
Specimens.2 *Blaps mucronata*

By Mr. J. Lyon Denson—

*Larvæ and imagines Tenebrio  
molitor*

3 other species

By Mr. John Rowe Dutton—

2 species

By Mr. R. Newstead—

Number of  
Specimens.1 *Geotrupes typhæus*1 *Liodes humeralis*1 *Choleva cisteloides*1 " *fusca*1 *Corymbites cupreus*1 *Malthodes marginatus*2 *Cedemera lurida*3 *Oncomera femorata*

116 other species

## MOLLUSCA (Shells.)

By Mr F. Archer—

*Acmaea testudinalis*\*

By Mrs McKenny Hughes—

*Donax vittatus**Tellina fabula*" *tenuis**Philine aperta**Scrobicularia alba**Ceratisolen legumen*

By Mrs. Gardner—

*Solen ensis**Acteon tornatilis**Dentalium entale**Spirula Peronii* (portions only, taken  
by the Donor)*Natica catena**Venus gallina**Cypraea europæa**Velutina laevigata*

By Mr. A. O. Walker

*Utriculus obtusus**Hydrobia ulvae**Buccinum undatum* (fry)*Natica alderi**Macra subtruncata**Corbula gibba**Bela turricula**Nucula nitida**Helcion pellucidum**Astarte sulcata**Macra stultorum* (var. *cinerea*)*Venus ovata*

By Mr. B. Tomlin—

*Gibbula umbilicata**Littorina obtusata**Venus exoleta**Vitrina pellucida**Succinea elegans**Hyalinia cellaria*" *nitidula*" *crystallina**Helix aculeata*" *caperata*" *aspersa*" *memoralis**Pupa* (*Pupilla*) *marginata**Buliminus obscurus**Vertigo edentula**Clausilia rugosa**Cochlicopa tridens*" *lubrica**Carychium minimum**Amalia marginata**Limax maximus*

Mr. Thos. Shephard—

*Bythinia tentaculata*

Mr. Nixon—

*Succinea putris**Hyalinia alliaria**Helix arbustorum*

3 other species

Mr. Dean, Mollington—

*Anodonta cygnea*†

\* New to district.

† This is a magnificent specimen, measuring 9½ inches in length, 11 inches in diameter.

## PISCES (Fish.)

Number of  
Specimens.1 Carp (*Cyprinus carpio*) Purchased

By Mr. John Guy, Boughton—

1 Perch (*Perca fluviatilis*)

By Mr. A. O. Walker—

1 Angler or Devil Fish (*Lophis piscatorius*)

By Mr Vincent—

Number of  
Specimens.1 Angler or Devil Fish (young)  
(*Lophis piscatorius*)

By Mr. A. O. Walker—

1 Basse (*Labrax lupus*)  
2 Roach (*Leuciscus rutulis*)  
2 Bream (*Abramis brama*)  
1 Ruffe (*Acerina vulgaris*)  
1 Conger Eel (*Conger vulgaris*)

## AVES (Birds.)

By Mr. A. O. Walker—

2 Forktail Petrels (*Thalassidroma Leachii*)  
1 Longtail Duck (*Herelda glacialis*)  
1 Golden Plover (*Charadrius plumialis*)  
1 Peregrine Falcon (*Falco peregrinus*)  
1 Ringed Guillemot (*Uria lacrymans, Valenc*)  
1 Ruddy Sheldrake (*Tadorna rutula*)  
2 Chaffinches (*Fingilla caelebs*)  
1 Yellow Ammer (*Emberiza citrinella*)  
1 Corncrake (*Orex pratensis*)  
2 Wild Ducks (*Anas boschas*)  
2 Brown Linnets (*Linaria canabina*)  
1 Sparrow Hawk (*Accipiter nisus*)  
1 Hawfinch (*Coccothraustes vulgaris*)  
1 Great Grey Shrike (*Lanius excubitor*)  
1 Night Jar (*Caprimulgus europaeus*)  
3 Young Winchats (*Pratencola ruberata*)  
Skylark (*Alanda arvensis*)  
1 Merganser (*Mergus serrator*)

By Col. P. G. Davies-Cooke—

1 Dark var. of common Grouse (*Lagopus scoticus*)  
3 Ring Ouzels (*Turdus torquatus*)  
1 Common Buzzard (*Buteo vulgaris*)

By Dr. W. H. Dobie—

1 Curlew Sandpiper (*Tringa subarquata*)  
2 Sanderlings (*calidris arenaria*)

By Mr. Porter, Colwyn Bay—

1 Teal (*Querquedula crecca*)  
1 Wimbrel (*numenius phaeopus*)  
1 Cormorant (*Phalacrocorax cristatus*)  
1 Oyster Catcher (*Haematopus ostralegus*)  
1 Grey Plover (*Squatarola helvetica*)

By Alderman Charles Brown—

1 Gold-crested Wren (*Regulus cristatus*)

By Mr. John Lyon Denson—

2 Swifts (*Cypselus apus*)

By Mr. Newstead, Sen., Ince—

1 Female Corncrake (*Orex pratensis*) and 5 young  
2 Swallows (*Hirunda rustica*)  
2 House Martins (*Hirundo urbana*), with their nests and eggs

By Mr. T. J. Dutton—

1 Kestrel Hawk (*Falco tinnunculus*)  
2 Little Grobes (*Podiceps minor*)

By Mr. Cecil Smith, Blacon Point—

1 Brambling Finch (*Fringilla montafringilla*)  
1 Lapwing (*vanellus cristatus*)  
1 Grey Wagtail (*montacilla sulphurea*)

By Miss Bretherton—

1 Wild Duck (*Anas boschas*)

By Master Siddall—

1 Lesser Redpole (*Linota linaria*)

## AVES—Continued.

By Mrs. Tomlin—

Number of  
Specimens.2 Rooks (*Corvus fragilegus*)

By Master Shephard—

1 Barn Owl (*Strix flammea*)

By Exchange—

1 Short-eared Owl (*Otus brachyotus*)

Purchased—

2 Little Grebes (*Podiceps minor*)1 Bald Coot (*Fulica atra*)

Purchased—

Number of  
Specimens.4 Bar-tailed Godwits (*Limosa rufa*)2 Kingfishers (*alcedo ispida*)1 Oyster Catcher (*Haematopus ostralegus*)1 Sanderling (*calidris arenaria*)1 Curlew Sandpiper (*Tringa subarquata*)1 Black-breasted Purr (*Tringa alpina*)1 Water Rail (*Rallus aquaticus*)1 Dipper (*Cinclus aquaticus*)

## NESTS AND EGGS.

By Mr. S. J. R. Dickson—

Nest and Eggs—Long-tailed Tit

" Chaffinch

By Mr. J. Lyon Denson—

Nest and Eggs—Long-tailed Tit

By Mr. A. O. Walker—

Nest and Eggs—Chaffinch

" Starling

By Mr. A. O. Walker—

Nest and Eggs—Blackbird

" Yellow Ammer

By Master W. Siddall—

Nest and Eggs—Gold Crest Wren

By Col. B. G. Davies Cooke—

Nest and Eggs—Ring Ouzel

## MAMMALIA (Animals.)

By Mr. J. Lyon Denson—

Hedgehog (*Erinaceus Europæus*)Moles (*Talpa Europæa*)

By Mr. Cecil Smith

1 White Var of Stoat (*Mustela erminea*)

By Master Siddall—

1 Stoat (*Mustela erminea*)

By Mr. T. Shephard—

1 Field Vole (*Arvicola agrestis*)

By Mr. Newstead, Senr., Ince—

1 Great Bat, and young  
(*Scotophilus noctulæ*)1 Long-eared Bat (*Plecotus auritus*)1 Common Bat (*Scotophilus pipistrellus*)

Purchased—

1 Otter (*Lutra vulgaris*)

## GEOLOGY AND MINERALOGY.

For teaching collection.

By Mr. A. W. Lucas—

1 Auriferous &amp; Argentiferous

Lead Ore

3 Gold Ores

1 Box Chloride of Silver

10 Silver Ores

2 Agates (broken)

1 Borax (native)

2 Copper

By Mr. W. Shone—

5 Footprints of Labyrinthodon

By Dr. Stolterfoth—

1 Fossil Shells (recent)

Purchased—

1 Crinoid (Mountain Limestone)

\* \* \* All additions are local except the Minerals.

## MISCELLANEOUS.

By Mr. A. O. Walker—  
 Several dozen glass-topped Boxes  
 Insect Cabinet (24 drawers)  
 Label List British Coleoptera

By Mr. W. Shone—  
 Large Glass Shade  
 Geological Diagrams  
 Wood Trays  
 8 Charts and Sections of the River  
 Dee, with Report of ditto

By Mr. Thos. Shephard—  
 15 Packets of Labels

By Mr. W. H. Okell—  
 Box Parchment Labels

Dr. Stolterfoth—  
 Label List of British Marine  
 Shells

## ABSTRACT OF NUMBER OF SPECIES.

|                                                     | Presented. | Pur-<br>chased. | Total. |
|-----------------------------------------------------|------------|-----------------|--------|
| <i>Rhizopoda, Hydrozoa, Polyzoa, Echinodermata,</i> |            |                 |        |
| <i>Crustacea, &amp;c.</i> .. .. .                   | 30         | ..              | 30     |
| <i>Orthoptera</i> .. .. .                           | 2          | ..              | 2      |
| <i>Hymenoptera</i> (Bees) .. .. .                   | 3          | ..              | 3      |
| <i>Lepidoptera</i> (Moths and Butterflies) .. .. .  | 68         | ..              | 68     |
| <i>Coleoptera</i> (Beetles) .. .. .                 | 364        | ..              | 364    |
| <i>Mollusca</i> (Shells) .. .. .                    | 56         | ..              | 56     |
| <i>Pisces</i> (Fish) .. .. .                        | 7          | 1               | 8      |
| <i>Aves</i> (Birds) .. .. .                         | 44         | 10              | 54     |
| Nests and Eggs .. .. .                              | 9          | ..              | 9      |
| <i>Mammalia</i> (Animals) .. .. .                   | 8          | 1               | 9      |
| Geology and Mineralogy .. .. .                      | 25         | 1               | 26     |
| TOTAL .. .. .                                       | 616        | 13              | 629    |

R. NEWSTEAD,  
 CURATOR.



The Hon. Treasurer in Account with the Chester Society of Natural Science,  
for the Year ending April 30th, 1888.

| Dr.                              | £  | s. | d.       | £   | s. | d. | Cr.                                                            | £  | s. | d.              |
|----------------------------------|----|----|----------|-----|----|----|----------------------------------------------------------------|----|----|-----------------|
| By Subscriptions—                |    |    |          |     |    |    | To Balance due to Treasurer                                    | 2  | 17 | 8½              |
| 3 for 1884-85                    | .. | .. | 0 15 0   |     |    |    | " Museum Management Committee                                  | .. | .. | 50 0 0          |
| 5 " 1885-86                      | .. | .. | 1 5 0    |     |    |    | " Library—New Books, &c.                                       | .. | .. | 2 14 7          |
| 18 " 1886-87                     | .. | .. | 4 10 0   |     |    |    | " Museum                                                       | .. | .. | 11 8 2½         |
| 523 " 1887-88                    | .. | .. | 130 15 0 |     |    |    | " Printing, Stationery, &c.                                    | .. | .. | 43 2 3          |
|                                  |    |    |          | 137 | 5  | 0  | " Postages                                                     | .. | .. | 19 8 8          |
| " Balance from Excursion Account | .. | .. | ..       | 0   | 14 | 8  | " Balance on Evening Meetings Account                          | .. | .. | 1 17 9½         |
| " Sale of Society's Proceedings  | .. | .. | ..       | 0   | 7  | 8  | " Fire Insurance                                               | .. | .. | 2 5 0           |
|                                  |    |    |          |     |    |    | " Subscription to Palæontographical Society                    | .. | .. | 1 1 0           |
|                                  |    |    |          |     |    |    | " Subscription to National Footpaths Preserva-<br>tion Society | .. | .. | 0 10 6          |
|                                  |    |    |          |     |    |    | " Painting Boards in Botanic Garden, Grosvenor<br>Park         | .. | .. | 1 10 0          |
|                                  |    |    |          |     |    |    | " Balance                                                      | .. | .. | 1 11 7½         |
|                                  |    |    |          |     |    |    |                                                                |    |    | <u>£138 7 4</u> |

JUNE 5TH, 1888—Examined and found correct, shewing a balance in the hands of the Treasurer  
of One Pound Eleven Shillings and Sevenpence Half-penny.

J. ROWE DUTTON, }  
W. VINCENT, }  
HON. AUDITORS.

# "KINGSLEY" MEMORIAL FUND.

STATEMENT OF ACCOUNT for the Year ended 30th April, 1888.

| Dr.                    |                 | Cr.                                    |                 |
|------------------------|-----------------|----------------------------------------|-----------------|
|                        | £ s. d.         |                                        | £ s. d.         |
| To Balance ..          | .. 41 19 7      | By Mr. J. Lyon Denson (Prize) ..       | .. 5 0 0        |
| " G. W. Dividends ..   | .. 16 0 1       | " Advertising ..                       | .. 0 10 6       |
| " Bankers' Interest .. | .. 0 14 8       | " Printing Bye-laws and Prize Lists .. | .. 0 15 0       |
|                        |                 | " Engraving Medal ..                   | .. 0 4 0        |
|                        |                 | Balance ..                             | .. 52 4 10      |
|                        | <u>£58 14 4</u> |                                        | <u>£58 14 4</u> |

21

APRIL 25TH, 1888—Examined and found correct,

|                    |               |
|--------------------|---------------|
| EDMUND J. BAILLIE, | W. VINCENT,   |
| ON. TREASURER.     | HON. AUDITOR. |

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers:—

1888.

- A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

---

In addition to the above, the Committee have decided that, in order to encourage scientific research, they will make grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

The Collections, Essays, or Notes of Observations may be sent in to either of the General Secretaries at any time, and the awards will be made at the *Conversazione* next succeeding the adjudication.

---

NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors should obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries of the Chester Society of Natural Science; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

---

The Prizes will be awarded at the Annual *Conversazione*.



## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

- 
- Academia Nacional de Ciencias De La Republica,  
 Argentina, Cordoba.  
 Barrow Naturalists' Field Club.  
 Brighton and Sussex Natural History Society.  
 Bristol Naturalists' Society.  
 Burnley Literary and Scientific Club.  
 Cardiff Naturalists' Society.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society  
 and Field Club.  
 Epping Forest and County of Essex Naturalists' Field Club  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 La Société d'Histoire Naturelle de St. Wladimir à Kiew,  
 Russie.  
 Leeds Naturalists' Club.  
 Liverpool Geological Society.  
 Liverpool Geological Association.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club.  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Microscopical Society.  
 Manchester Scientific Students' Association.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæo-  
 logical Society.  
 Nottingham Naturalists' Society.  
 Postal Microscopical Society.  
 Quekett Microscopical Club.  
 Rochdale Field Naturalists' Society.  
 Smithsonian Institution, Washington, D.C.  
 United States Geological Survey.  
 Vienna Natural History Museum.  
 Wigan Literary and Scientific Society.

## HONORARY MEMBERS.


*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


- Archer, Frank, Esq., B.A. .... 14 *Cook Street, Liverpool*  
 Brady, H. Bowman, Esq., F.R.S., F.L.S.,  
 F.G.S. .... *Hillfield, Gateshead*  
 Carruthers, W., Esq., F.R.S., F.G.S. .. *The British Museum, South Kensington, London, S.W.*
- \*Dawkins, W. Boyd, Esq., M.A., F.R.S.,  
 F.G.S., F.S.A. .... *Woodhurst, Wilmslow rd., Fallowfield, Manchester.*
- De Tabley, The Right Hon. Lord. .... *Tabley House, Knutsford*
- \*Hicks, H., Esq., M.D., F.R.S., F.G.S. .. *Hendon Grove, Hendon, London, N.W.*
- \*Higgins, Rev. H. H., M.A. .... 29 *Falkner Square, Liverpool*
- Hooker, Sir J. D., F.R.S. .... *Royal Gardens, Kew, London, W.*
- \*Hughes, Prof. T. McKenny, M.A.,  
 F.S.A., F.G.S., &c. .... *Trinity College, Cambridge*
- Hunt, T. Sterry, M.A., LL.D., F.R.S. .. *Montreal, Canada*
- Huxley, Prof. T. H., LL.D., F.R.S.,  
 Ph.D., F.L.S., F.G.S. .... 4 *Marlborough Place, London, N.W.*
- \*Judd, Prof. J. W., F.R.S. .. *Science Schools, South Kensington, London, S.W.*
- Kingsley, Mrs. .... *Tachbrook Mallory, Leamington*
- Lubbock, Sir John, Bart., M.P., F.R.S.,  
 &c. .... *High Elms, Beckenham, Kent*
- \*Mackintosh, D., Esq., F.G.S. .... 32 *Glover street, Borough road, Birkenhead*
- \*Morton, G. H., Esq., F.G.S. .... 209 *Edge lane, Liverpool, E.*
- Norman, Rev. A. M., M.A., D.C.L.,  
 F.L.S. .... *Fence House, Durham*
- \*Rae, E., Esq., F.S.A. .... *Court Lodge, Birkenhead*
- Renard, The Abbé .... *Curator of the Royal Museum of Natural History, Brussels*
- \*Rudler, F. W., Esq., F.G.S. .... *Museum of Practical Geology, Jermyn street, London, S.W.*
- Spooner, C. E., Esq., C.E., F.G.S. .... *Bron y Garth, Portmadoc*
- Tyndall, Prof. J., D.C.L., LL.D., F.R.S. .. *Royal Institution, Albemarle street, London, W.*
- Villanova-y-Piera .... *Professor of Geology in the University of Madrid*
- \*Vize, Rev. J. E., M.A. .... *Rector of Forden, Welshpool*

## CORRESPONDING MEMBERS.

- Askew, Mr. Jas. H. .... *Hilbre Island*
- Griffith, Mr. J. E., F.L.S., F.R.A.S. .. *Vronheulog, Upper Bangor, N.W.*
- Joachim, Mr. Geo. .... *Dunedin, Otago, New Zealand*
- Leather, Mr. F. S. .... *New Zealand*
- Nixon, Mr. .... *National School, Manley, Cheshire*
- \*Reade, Mr. Oswald A. .... *Royal Naval Hospital, Gt. Yarmouth*
- \*Rowston, Mr. R. .... *Kingsley Alton, Hants*
- \*Ruddy, Mr. Thos. .... *Palé, Corwen*
- \*Thomas, Dr. H. .... *The Hydropathic Establishment, Llandudno*
- Tomlin, Mr. J. R. Le B., B.A. .... 59 *Liverpool road*
- Walker, Mr. Fred. .... *Heywood, Tenby*
- Wynne, Mrs. Lloyd .... *Coed Coch, Abergele*
- \*Wilkins, Mr. T. S. .... *Uthxeter*

## NOTICE.

 THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, MR. JOHN MILLS, Chemist, Eastgate Row.

 To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.

## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

|                             |       |                                            |
|-----------------------------|-------|--------------------------------------------|
| Acheson, Rev. J. H., M.A.   | ....  | Cambrian View                              |
| Acheson, Mr. Maurice        | ..... | " "                                        |
| Acheson, Mr. Guy H.         | ..... | " "                                        |
| *Acton, Mr. T. Bennion      | ..... | Grove road, Wrexham                        |
| Adams, Mr. Beresford        | ..... | 8 Cheyney road                             |
| Adams, Mr. Geo. F.          | ..... | Brighton villa, Saughall road              |
| Alletson, Mr. W.            | ..... | Oakenholt, Flint                           |
| Appleton, Mr. John          | ..... | 9 Lorne street                             |
| Arkle, Mr. J.               | ..... | Diocesan Schools, George street            |
| Avery, Mr. John             | ..... | 71 Bouverie street                         |
| Ayrton, Mrs.                | ..... | Abbot's Rock, 33 Liverpool road            |
| Ayrton, Mr. Alfred G.       | ..... | " " "                                      |
| *Baillie, Mr. E. J., F.L.S. | ..... | Woodbine, Upton park                       |
| Baillie, Mrs. E. J.         | ..... | " "                                        |
| Baker, Mr. W. S., L.D.S.I.  | ..... | Edgar house, City walls                    |
| Baker, Mrs.                 | ..... | 24 Frodsham street                         |
| Baker, Miss                 | ..... | 48 Bridge street                           |
| Ballard, Mr. E. G.          | ..... | 1 Eversley park                            |
| Ballard, Mrs.               | ..... | " "                                        |
| Barker, Mr. A.              | ..... | 6 Abbey street                             |
| Barlow, Miss M.             | ..... | Coed Pella, Colwyn Bay                     |
| Barnacle, Rev. H. G.        | ..... | The Vicarage, Holmes Chapel, Crewe, R.S.O. |
| Barnes, Rev. F., B.A.       | ..... | Hope villa, Raymond street                 |
| Barrett, Rev. W. F., M.A.   | ....  | Mostyn House, Parkgate                     |
| Barrett, Mrs. W. F.         | ..... | " "                                        |
| Barrow, Miss                | ..... | The Infirmary                              |
| Bassett, Miss C. E.         | ..... | 68 Northgate street                        |
| Baxter, Mr. Geo.            | ..... | 47 Queen street                            |

\* Bedford, Rev. J. L., M.A., F.L.S. . . . 10 Abbey square  
Bedford, Mrs. . . . . . " " "  
Bernard, Mr. John . . . . . 17 City walls " "  
Beswick, Mrs. Harry . . . . . 17 Victoria pathway, Queen's park  
Bewley, Mr. J. A. . . . . The Watergate  
Birch, Mr. H. J. . . . . Corville, Liverpool road  
Birch, Miss . . . . . 18 Upper Northgate street  
Blayney, Mr. A. . . . . 2 City walls, W.  
Blayney, Mrs. A. . . . . " "  
Bleazard, Mr. Marmaduke . . . . . Slaidburn, Yorkshire, *via* Clitheroe  
Blogg, Rev. H. B., M.A. . . . . The Vicarage, Frodsham  
Blomfield, Capt., R.N. . . . . { @ Messrs. Woodhead & Co., 44 Charing  
Cross, London  
Blower, Mr. T. B. . . . . 6 The Groves  
Blower, Mr. W. . . . . 4 Williams' terrace, Hoole  
Boddington, Mr. J. . . . . 3 Cheyney road  
Boddington, Miss Lily . . . . . " "  
Bolland, Mr. Frank . . . . . 23 Hough green  
Bonnalie, Mr. G., L.D.S., R.C.S.E. . . . 4 Abbey square  
Bonnalie, Mr. Fredk. . . . . " "  
Borwick, Rev. R. P. . . . . Frodsham, near Chester  
Bowers, Mr. H. R., J.P. . . . . Abbot's lodge, Liverpool road  
Bowers, Mrs. H. R. . . . . " "  
Bowles, Mr. T. S. . . . . 21 Raymond street  
Box, Mr. Henry . . . . . 46 Frodsham street  
Boyson, Miss Annie H. . . . . { Grove House, Larkhall Rise, Clapham,  
London, S.W.  
Brassey, Miss . . . . . Rose Hill, Bowdon, Cheshire  
Brayshaw, Mr. E. C. . . . . 4 Crane street  
Brewer, Miss E. . . . . 15 Paradise row  
Broadbent, Mrs. . . . . Bache cottage  
Brown, Miss . . . . . 144 Boughton  
Brown, Mr. C. . . . . The Folly, Flookersbrook  
Brown, Miss L. E. . . . . " "  
Brown, Mr. W. . . . . 18 Curzon park " "  
Brown, Mr. F. F., M.A. . . . . " "  
\* Buckler, Rev. J. F., M.A. . . . . Bidston Rectory, near Birkenhead  
Buckley, Mr. Wm, Ireland, F.R.G.S. . . . The Academy, Winsford, Cheshire  
Bullin, Mr. F., J.P., L.D.S., R.C.S. . . 22 Nicholas street  
Bullin, Mrs. . . . . " "  
Bullin, Miss E. . . . . " "  
Butt, Miss . . . . . 8 Curzon park " "  
Butte, Miss . . . . . 7 Short place, Garden lane

Campbell, Rev. E. A. Pitcairn, M.A., J.P. . . Vicar's Cross  
Carrington, Mr. A. . . . . 12 White friars  
Catherall, Mr. T. . . . . Holly bank, Queen's park  
Chapman, Mr. F. W. . . . . 40 Tarvin road  
Chester, The Right Rev. The Lord Bishop of . . . The Palace, Dee side  
Clayton, Mr. Albert . . . . . 38 Hough green  
Clemence, Mr. S. . . . . 2 Chichester street  
Clough, Miss . . . . . 18 Queen street  
Clough, Mr. G. F. . . . . 15 Pepper street  
Coe, Mr. D. . . . . 26 Lightfoot street, Bishopsfield  
Coe, Mr. Henry J. . . . . 4 Bold terrace  
Collinge, Mr. James . . . . . Kinnerton Lodge, Chester

Comber, Mrs. E. .... Holly Bank, Christleton  
 Connah, Mr. Jas. .... The Laboratory, Somerset House, London, W.C.  
 \*Connor, Mr. Rochfort, F.L.S. .. 9 Haddington terrace, Kingstown, Dublin  
 Coppack, Mr. Chas. .... Derby Cottage, 107 Garden lane  
 Cordery, Mr. J. .... 7 Liverpool road  
 Cordery, Miss C. .... 79 Boughton  
 \*Cowan, Mr. E. W., A.M.I.C.E. Victoria Iron Works  
 \*Cowap, Mr. C. R. .... 22a Cambrian view  
 Cummings, Miss .... King's Buildings

Darby, Very Rev. J. L., D.D. .. The Deanery  
 Davey, Mr. .... 3 Brighton terrace  
 Davey, Mrs. .... " "  
 Davies-Colley, Dr. T., J.P. .... Newton Cottage, near Chester  
 Davies-Colley, Mrs. .... " " "  
 Davies-Colley, Miss E. C. .... " " "  
 Davies, Miss Henrietta .... 69 Boughton  
 Davies, Mr. E. Henry .... 19 Francis street  
 Davies, Mr. J. .... " "  
 Davies, Mr. John .... Parr's Banking Co., Eastgate street  
 Davies, Mr. J. P. .... 75 Crane street  
 Davies, Mr. James .... 20 St. Anne's place  
 Day, Mr. C. J. .... Rowton, Chester  
 Denson, Mr. W. .... 21 Upper Northgate street  
 Denson, Mrs. W. .... " " "  
 Denson, Miss Adelaide .... " " "  
 Denson, Mr. J. Lyon .... " " "  
 Denson, Mr. T. F. .... 8 Church street  
 Denson, Mrs. T. F. .... " "  
 Dickson, Mr. F. A., J.P. .... Kirby park, West Kirby  
 Dickson, Mrs. F. A. .... " "  
 Dickson, Miss A. .... " "  
 Dickson, Mr. Geo. A., J.P. .... Springfield, Flookersbook  
 Dickson, Mrs. Geo. A. .... " "  
 Dickson, Miss Lavinia .... " "  
 Dickson, Mr. Jas. .... Brookfield House, Chester  
 Dickson, Mr. W. A. .... Newton villa, Chester  
 Dickson, Mr. S. J. R. .... Mayfield House, Hoole  
 \*Dobie, Dr. W. M. .... 23 Upper Northgate street  
 Dobie, Miss .... " "  
 \*Dobie, Mr. W. H., M.B. .... 22 Upper Northgate street  
 Dod, Rev. C. Wolley, M.A., J.P. .... Edge Hall, Malpas, Chester  
 Dod, Miss Wolley .... " " "  
 Dodd, Mr. W. .... 143 St. Anne street  
 Dodds, Mr. John .... Lorne street (North)  
 Droughton, Mr. Jerome .... 27 Victor street, Boughton  
 Drury, Mrs. .... Abbot's field, Liverpool road  
 Drury, Mr. R. .... " "  
 Dugdale, Mr. John .... Spital field, Boughton  
 Dutton, Mr. J. Rowe .... 6 Stanley place  
 Dutton, Mr. George .... 13 Curzon park  
 Dutton, Mrs. .... " "  
 Dutton, Mrs. G. W. .... 15 Curzon park  
 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 \*Dutton, Mr. F. V. .... 9 Eaton road  
 Dutton, Mr. Chas., J.P. .... Queen's park

- \*Edwards, Mr. J. W. P. .... 133 Boughton  
 Edwards, Mrs. J. W. P. ....  
 Edwards, Mr. J. E., J.P. .... Abbot's Mount, Liverpool road  
 Edwards, Mr. J. .... 74 Foregate street  
 Enock, Mr. C. R. .... Parkgate road  
 Enock, Mrs. C. R. ....  
 Evans-Lloyd, Colonel, J.P. .... Stanley House  
 \*Evans, Mr. F. .... The Eastgate  
 Evans, Mr. R. .... Cambrian view  
 Evans, Miss .... Eversley House, Eversley park  
 Evans, Rev. T. J., M.A. .... Hargrave Rectory, near Chester  
 Ewen, Mr. I. E. .... Eccleston, near Chester  
 Ewen, Miss. ....  
 Ewing, Mr. C. A. .... Newgate street  
 Ewing, Miss .... Golden Grove, Hoole road  
 Ewing Miss L. ....  
 Farmer, Mr. Richard .... Brierley, Brook lane  
 Farmer, Mrs. ....  
 Farrimond, Mr. F. T. .... Sunnyside, Boughton  
 \*Fawcus, Mr. W. J. P., C.E. .... Victoria Iron Works  
 Feilden, Miss .... Mollington Hall, Chester  
 Fenton, Mr. T. J. O'C. .... Fairclough lane, Birkenhead  
 Ffoulkes, His Honor Judge Wynne, M.A. .... Upper Northgate street  
 Foulkes, Mr. Thomas B., Junr. .... 65 Berner's street, Ipswich  
 Finchett, Mr. W. H. .... Savings' Bank, Grosvenor street  
 Firth, Mr. N. C. .... 125 Foregate street  
 Fish, Mrs. .... Arnold House, Parkgate road  
 \*Fish, Rev. A. H., B.A., B.Sc. (Lond.) ....  
 Fleet, Mr. H. .... 76 Lower Bridge street  
 \*Fletcher, Mr. P. H. .... Woodbrae, Curzon park  
 Fletcher, Mrs. P. H. ....  
 Fletcher, Miss ....  
 Fluitt, Miss .... Grey friars  
 Frater, Mr. G. .... 3 Lorne street  
 Frater, Mr. Jas. ....  
 Frater, Miss .... 12 Stanley place  
 Freeman, Mr. C. E. .... Manor House, Sealand  
 Frith, Mr. Philip J. .... 21 Tarvin road  
 Frith, Mr. Jas. N. ....  
 Fromont, Mr. W. H. .... 15 Tarvin road  
 Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
 Frost, Lady ....  
 Frost, Mr. J. M. .... Dee Lodge  
 Gardner, Mrs. W. A. .... Redland House, Hough green  
 Gardner, Miss ....  
 Gardner, Miss E. F. ....  
 Garnett, Mr. W. .... Bridge street row  
 Garside, Mr. F. .... Hamilton street, Hoole  
 Gibson, Mr. J. M. .... Buckley, *via* Chester  
 Gilbert, Mr. Leonard, J.P. .... Egerton Villa, Liverpool road  
 \*Giles, Rev. W. T., M.A., F.R.G.S. .... The Asylum, Chester  
 Giles, Mr. Hammond .... National Provincial Bank, Chester  
 Glascodyne, Miss .... The Queen's School, City walls  
 Golder, Mr. S. .... Nicholas street

|                                              |                                |
|----------------------------------------------|--------------------------------|
| Gorst, Miss.....                             | Spring villa, Liverpool road   |
| Graham, Mr. Jas. ....                        | 36 King street                 |
| Graham, Mrs.....                             | "                              |
| Graham, Mr. Harold J. ....                   | "                              |
| Graham, Miss.....                            | Cambrian view                  |
| *Granger, Mr. F. M., M.R.C.S., L.R.C.P.L.... | 18 Nicholas street             |
| Grantham, Rev. H. ....                       | St. Mary's Rectory, Chester    |
| Green, Mr. T. E. ....                        | 26 St. Martin's-in-the-fields  |
| Green, Mr. B. W.....                         | Bridgegate House               |
| Gregg, Mr. W. ....                           | 2 Watergate square             |
| Griffith, Mr. G. R. ....                     | 30 Hough green                 |
| Griffith, Mrs. G. R. ....                    | " "                            |
| Griffith, Miss .....                         | " "                            |
| Griffith, Mr. N. de B. ....                  | " "                            |
| Griffiths, Mr. Jno.....                      | Upton park                     |
| Griffiths, Mrs. John .....                   | "                              |
| Griffiths, Mr. T. W.....                     | 5 Hough green                  |
| Griffiths, Miss.....                         | 42 Watergate street            |
| Griffiths, Mr. T. Turner, B.A. ..            | " "                            |
| Griffiths, Mr. John .....                    | " "                            |
| *Grocott, Mr. E. A. ....                     | 21 White friars                |
| Grundy, Miss .....                           | 18 The Groves                  |
| Gunton, Miss .....                           | Rimmersfield, Liverpool road   |
| Haining, Dr. W. ....                         | 81 Foregate street             |
| *Hall, Mr. J. H. A. ....                     | Old Bank House                 |
| Hall, Mrs. ....                              | " "                            |
| Hamel, Miss .....                            | 9 Abbey street                 |
| Hamilton, Mr. A., M.R.C.S.....               | 16 White friars                |
| Hankey, Mr. Lee .....                        | Rock Mount, Liverpool road     |
| Hankey, Miss C. M. ....                      | " "                            |
| Hanmer, Mr. F. ....                          | Bridge street                  |
| Hardy, Mr. J. E. ....                        | The Blue School, The Northgate |
| Hardy, Mrs. ....                             | " "                            |
| Harrison, Miss .....                         | 20 Lorne street                |
| Harrison, Mrs. Jno. ....                     | Ashton House, New Crane street |
| Harrison, Mr. N. ....                        | Highfield, Curzon park         |
| Harrison, Mrs. N. ....                       | " "                            |
| Haswell, Mr. Geo. W.....                     | Parkgate-road                  |
| Henderson, Mr. J. E. ....                    | 19 Pathway, Queen's park       |
| Henderson, Mr. Wm. ....                      | 11 Union walk                  |
| Henry, Mr. R. G.....                         | 65 Bouverie street             |
| Henshaw, Mr. T. ....                         | Edgbaston villa, Brook lane    |
| Henshaw, Miss Florence M. ....               | " "                            |
| Heppel, Miss .....                           | 2 Exton park                   |
| Herne, Colonel .....                         | Delamere House, Liverpool road |
| Hewitt, Mr. David L. ....                    | Abbey House, Northgate street  |
| Hickman, Mr. F. F.....                       | 8 Northgate street             |
| Hickman, Miss .....                          | 17 The Groves                  |
| Higgins, Miss Eva.....                       | The Manor, Overleigh           |
| Higgins, Miss Millie.....                    | "                              |
| Higgins, Mr. W. H.....                       | St. Martin's-in-the-fields     |
| Hignett, Mrs. ....                           | 14 Hough green                 |
| Hignett, Mrs. T. H.....                      | 18 Hough green                 |
| Hillyard, Rev. Canon, M.A. ....              | Okeford, Bampton, N. Devon     |
| Hincks, Mr. J. W. ....                       | 61 Northgate street            |

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Hobday, Mr. J. ....                   | Alexandra villa, Liverpool road          |
| Hobday, Mr. E. ....                   | " "                                      |
| Hobday, Mr. Jas. ....                 | 22 The Groves                            |
| *Hodges, Mr. W. ....                  | 31 Hough green                           |
| Hodkinson, Mr. E. ....                | 35 Pepper street                         |
| *Holland, Mr. R. ....                 | Mill Bank House, Frodsham                |
| Holme, Rev. A. P., M.A. ....          | The Rectory, Tattenhall                  |
| Holmes, Mr. J. G. ....                | Belmont, Curzon park                     |
| Hoole, Rev. W. Spooner, M.A. ....     | Rectory, Thornton-le-Moors, near Chester |
| Hopkins, Mrs. ....                    | 32 Queen street                          |
| Horabin, Mr. T. ....                  | 16 Newgate street                        |
| Horton, Mr. H. ....                   | 74 Brook street                          |
| Hostage, Mr. Geo. B. ....             | 28 Eaton road                            |
| Hostage, Mrs. Geo. B. ....            | " "                                      |
| Hostage, Miss ....                    | 22 Eaton road                            |
| Howson, Miss ....                     | Egerton House, Upper Northgate street    |
| Howson, Miss M. ....                  | " "                                      |
| Howson, Rev. J. F., B.A. ....         | The "Rectory, "New Brighton"             |
| Hudson, Mrs. R. S. ....               | Bache Hall, Chester                      |
| Hughes, Mr. A. H. ....                | 23 Orchard street                        |
| Hughes, Mrs. McKenny ....             | 4 Cintra terrace, Cambridge              |
| Hughes, Mr. T., F.S.A. ..             | Grove terrace, The Groves                |
| Hughes, Mr. Thos. Cann, B.A. ..       | Town Hall, Manchester                    |
| *Hughes, His Honour Judge ....        | Uffington House, Dee hills               |
| Hughes, Mrs. ....                     | " "                                      |
| Huke, Mr. J. W. ....                  | 89 Foregate street                       |
| Humberston, Miss. ....                | Newton Hall, Chester                     |
| Hutchings, Mr. W. M. ....             | Eversley park                            |
| Jackson, Miss. ....                   | 21 Hough green                           |
| Jacob, Rev. Joseph ....               | Whitewell Rectory, Whitchurch (Salop)    |
| James, The Very Rev. H. A., M.A. .... | The Deanery, St. Asaph                   |
| *Jebb, Mr. G. R., C.E. ....           | Fairfield, Great Barr, Birmingham        |
| *Jeffs, Mr. O. W. ....                | 8 Queen's road, Rock Ferry               |
| Jefferson, Miss ....                  | 38 Bridge street                         |
| Jephcott, Mr. Charles ....            | 13 Lorne street (North)                  |
| Johnson, Major . ....                 | 34 King street                           |
| Johnson, Mrs. ....                    | 11 Bertram road, Sefton park, Liverpool  |
| Johnson, Mr. W. ....                  | 29 George street                         |
| Johnson, Mr. ....                     | St. Paul's School, Boughton              |
| *Johnson, Mr. M., L.D.S.I. ....       | 9 York villas, Lorne street              |
| Jones, Miss G. M. ....                | 10 Crane street                          |
| Jones, Miss Maggie ....               | 1 King's buildings                       |
| Jones, Mr. H. Watson. ....            | 11 Grosvenor park road                   |
| Jones, Miss S. H. ....                | Kingston House, Liverpool road           |
| Jones, Mr. A. W. ....                 | 23 Seller street                         |
| Jones, Mrs. A. W. ....                | " "                                      |
| Jones, Miss. ....                     | The Northgate                            |
| Kearland, Miss ....                   | 2 Egerton terrace, Hoole road            |
| Keeling, Miss Alice ....              | 18 Upper Northgate street                |
| Kelly, Miss Nellie. ....              | Trinity street                           |
| Kenyon, Dr. ....                      | Flookersbrook                            |
| King, Dr. ....                        | 18 Newgate street                        |
| King, Miss Edith F. ....              | " "                                      |
| Kingsley, Miss ....                   | Tachbrook Mallory, Leamington            |
| Kingsley, Mr. G. A. ....              | " " "                                    |



- Kinsey, Mr. T. E. Morris ..... Westminster buildings  
 Kirkpatrick, Mrs. .... Ash Grove  
 Knowles, Mr. E. R. .... Grosvenor street  
  
 Lacy, Mrs. .... Moor Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. A., Junr. .... " "  
 Latham, Mr. J. S. .... Green Bank, Liverpool road  
 \*Lawrence, Dr. A. .... The Asylum, Chester  
 Laycock, Mr. Alfred .... 12 Linenhall street  
 Lees, Mr. W., M.R.C.S. .... The Infirmary  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lightfoot, Mrs. W. M. .... York villas, Liverpool road  
 Lindsay, H. B., Esq. .... 13 Charles street, Berkeley square, London  
 Lipsham, Mr. F. .... 17 Pepper street  
 Livesay, Miss .... Higher Grade Wesleyan schools  
 Lloyd, His Honour Judge Horatio. .... 3 Sandown terrace  
 Lloyd, Mrs. Horatio .... " "  
 Lloyd, Mrs. E. .... 24 Eaton road  
 Lloyd, Miss M. E. .... 20 Lorne street  
 Lockwood, Mr. T. M., F.R.I.B.A. .... 80 Foregate street  
 Lowe, Mr. G. B. .... 25 Hough green  
 Lowe, Miss C. H. .... " "  
 \*Lowe, Mr. W. F., A.R.S.M., }  
     F.I.C., F.C.S. .... } 21 Granville road, Cambrian view  
 Lowe, Mrs. W. F. .... " "  
 Lowe, Mr. Jas. F., B.A. .... Dee Banks " "  
 \*Lucas, Mr. A. W., F.R.G.S. .... 7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Luxmoore, Mr. E. B., J.P., F.G.S. .... Bryn-Asaph, St. Asaph  
  
 Macaulay, Miss .... Higher Grade Wesleyan schools  
 Macdonald, Mr. G. .... 67 Bouverie street  
 Manley, Mr. H. .... Aston, Nantwich  
 \*Manning, Mr. J. B. .... The Governor's House, H.M. Prison, Wakefield  
 Manning, Miss Edith .... 18 Upper Northgate street  
 Manning, Miss Lilian .... " " "  
 Marsden Miss .... 6 Grosvenor park road  
 Marsden, Miss E. .... " "  
 Marshall, Mr. W. H. .... 18 Lorne street "  
 Martin, Mr. E. .... Cheyney road  
 Mason, Mr. F. B. .... 3 Lorne street, North  
 Massie, Admiral .... 3 Stanley place  
 Massy, Miss .... Mansfield lodge, Hough green  
 McEwen, Mrs. .... 26 Nicholas street  
 \*McKerchar, Mr. J. .... 35 Giesbach rd., Upper Holloway, London, N.  
 Milligan, Miss Janet .... Sealand  
 \*Mills, Mr. John .... 4 Eastgate row  
 Mills, Mrs. John .... " "  
 \*Miln, Mr. G. P. .... 27 Chichester street  
 Miln, Mrs. .... " "  
 Minshull, Mr. E. .... The Northgate  
 Minshull, Miss .... " "  
 Minshull, Miss C. R. .... " "  
 Mitchell, Rev. J., B.D. .... 57, Parkgate road  
 Montgomery, Mr. J. K. .... Abbot's villas, Liverpool road

Moreton, Mr. J. E., F.R.C.S. .. Tarvin  
 Moreton, Mrs. ....  
 Morris, The Rev. Canon, D.D. .. Eaton, Chester  
 Morris, Mr. Chas. .... 21 Black Diamond street  
 Morton, Mr. G. .... Dodleston, near Chester  
 Mulhern, Mr. R. .... 45 Frodsham street  
 Müller, Fraulein Anna ..... c/o Mr. Minshull, The Northgate  
 Munns, Mr. J. .... 10 Pepper street

Newell, Mr. A. Thurman ..... Stafford House, Bridge street row  
 \*Newstead, Mr. R. .... The Grosvenor Museum  
 Nicholson, Mr. J. M. .... Little Sutton, Chester  
 Nichols, Mr. G. F. .... 12 Chichester street

\*Okell, Mr. W. H. .... 1 Northgate street  
 \*Okell, Mr. E. W. .... 22 Northgate street  
 Okell, Miss ..... 6 Curzon park  
 Okell, Miss M. H. .... " "  
 Okell, Miss J. .... " "  
 Okell, Mr. P. H. .... The Cross  
 Oldfield, Mrs. .... 68 Northgate street  
 Oldfield, Miss ..... Bryn Clwyd, St. Asaph  
 Orton, Mr. R. O., J.P. .... Tattenhall  
 Owen, Miss Bessie ..... 18 Queen street  
 Owen, Miss ..... 10 Stanley place  
 Owen, Mr. John ..... Little Sutton

Palin, Mr. G. F. .... Parr's Banking Co., Eastgate street  
 Paris, Mr. Alfred ..... Northgate street  
 Parkes, Mr. A. .... Bridge street row  
 Parkes, Mrs. A. .... " "  
 \*Parnell, Mr. E. W., F.C.S. .... Queen's park  
 Parry, Mrs. C. .... 24 Frodsham street  
 Parry, Mr. Gilbert ..... Farndon Hall, Chester  
 \*Parry, Mr. T. S., M.B. .... 24 Nicholas street  
 Payne, Miss ..... 4 Abbey green  
 Payne, Miss A. .... " "  
 Phillipson, Mr. J. .... 12 Liverpool road  
 Phillipson, Mr. H. G. .... " "  
 Phillipson, Mr. J. Tindal, B.A. .... " "  
 Pike, Mr. Horace G. .... Frodsham street  
 Pinches, Mr. Richard ..... 9 Black friars  
 Podmore, Miss ..... 3 Eastern pathway, Queen's park  
 Porter, Mrs. .... Crowthorne, Childer Thornton  
 Potts, Mr. C. W. .... Heron bridge  
 Potts, Capt. H. J. .... Glanrafon, Mold  
 Potts, Mr. J. .... Thorn Tree House, Chester road, Macclesfield  
 Powell, Mr. E. .... Eastgate row  
 Powell, Mrs. .... Springfield, Neston  
 Powell, Mr. T. J. .... 14 Newgate street  
 Preston, Mr. F. M. .... Abbot's Grange, Liverpool road  
 Price, Rev. Elis. .... 56 Watergate street  
 Price, Mr. Paul ..... Bryntirion, Chichester street  
 \*Price, Mr. Walmsley ..... 26 Watergate row  
 Price, Mrs. Walmsley ..... " "  
 Prichard, Mr. Geo. .... 10 St. John's road, Queen's park  
 Prichard, Miss ..... " " "

- Puget, Miss Louisa Du ..... Fernville, Curzon park  
 Pulling, Mr. Edward, B.A. .... Victoria Iron Works  
 Pye, Mr. Jas. .... Clovelly House, Eversley park  
 \*Pye, Mr. T. E. .... Commercial Gas Co., Stepney, London, E.
- \*Ramsden, Mr. W. .... *Cheshire Observer*, Eastgate row (North)  
 Rayner, Miss ..... Ash Grove, Wrexham road  
 Ray, Miss ..... 3 Eastern pathway, Queen's park  
 Reade, Mr. Albert Wm. .... 11 Lorne street  
 Reade, Mr. Walter ..... " " "  
 Rhodes Mrs. .... York villas, Liverpool road  
 Richmond, Mr. G. B. .... *Courant* Office, Northgate street  
 Roberts, Mr. J. .... 15 Bridge place  
 Roberts, Miss ..... Bank Cottage, Neston  
 Roberts, Miss Annie ..... 14 Stanley place  
 Roberts, Miss M. .... 8 Nicholas street  
 Roberts, Dr. .... 8 Abbey square  
 \*Roberts, Mr. E. Lloyd ..... " " "  
 Roberts, Mr. Hugh ..... Crypt Chambers  
 Rogers, Mr. James ..... The Cross  
 Rogers, Mr. Jno. .... Watergate House  
 Rogers, Mr. W. .... " " "  
 Rogerson, Mr. G. H. .... 4 Nicholas street  
 Rowland, Mr. J. .... The Warren, Bodfari, Trefnant, Denbighshire  
 Royle, Mrs. T. V. .... Dingle Bank  
 Royle, Mr. T. R. P. .... Hough Green House  
 Royle, Mrs. T. R. P. .... " " "  
 Rushton, Mr. F. Lever ..... Thornton Grange, Gresford
- Sant, Mr. T. .... Frodsham  
 Saunders, Mr. G. M. .... 8 Lorne street  
 Schröder, Mr. W. G. .... 22 Chichester Street  
 Scotland, Colonel ..... Eccleston Hill, Chester  
 Scott, Mr. John ..... 19 Chichester street  
 Segar, Mr. F., L.D.S.E. .... 75 Bridge street row  
 Selwood, Mr. T. .... Eaton Gardens, Chester  
 Sharpe, Mr. F. W. .... Abbey square  
 \*Shepherd, Mr. T., F.R.M.S. .. Kingsley Lodge, Liverpool road  
 Shepherd, Miss ..... " " "  
 Shepherd, Miss Emma ..... " " "  
 Shepherd, Miss Annie ..... " " "  
 Shepherd, Mr. Wm. .... " " "  
 \*Shone, Mr. W., F.G.S. .... Upton park  
 Shone, Mrs. W. .... " "  
 Shrubsole, Mr. Alfred ..... Town Hall square  
 Silk, Mr. Chas. .... Mount Pleasant, Saltney  
 \*Siddall, Mr. J. D. .... 19 Eaton road  
 Siddall, Mrs. .... " "  
 Simpson, Mrs. .... 77 Parkgate road  
 Small, Mr. A. H. .... 3 Deva terrace  
 Smallpeice, Miss ..... The High School, Dewsbury  
 Smith, Mr. T. .... Blacon Point, Chester  
 Smith, Mrs. S. .... 16 Nicholas street  
 Smith, Miss H. .... Chichester street  
 Smith, Mr. F. .... Beechwood House, 10 Canal street  
 Smith, Miss F. .... " " "  
 Smith, Miss L. .... " " "

|                                    |                                                                  |
|------------------------------------|------------------------------------------------------------------|
| Smith, Mr. John                    | Market square                                                    |
| Smith, Mr. Harry                   | Eversley park                                                    |
| Smith, Mr. T. J.                   | Moor House, Flookersbrook                                        |
| Smith, Mrs.                        | " "                                                              |
| Smith, Mr. A. Ford, B.A.           | White friars                                                     |
| Smith, Mr. R. D.                   | Deva terrace                                                     |
| Smyth, Miss Lyle                   | Barrowmore Hall, near Chester                                    |
| Snelson, Miss S.                   | 22 Pepper street                                                 |
| Spencer, Mrs.                      | 36 Bridge street                                                 |
| Spencer, Mr. J. H.                 | " "                                                              |
| Spencer, Mrs. J. H.                | " "                                                              |
| Spooner, Miss                      | Newton Cottage, near Chester                                     |
| Stevenson, Mr. A.                  | Grosvenor park road                                              |
| Stewart, Mrs.                      | 39 White friars                                                  |
| *Stolterfoth, Dr., M.A.            | 60 Watergate street                                              |
| Stolterfoth, Mrs.                  | " "                                                              |
| Stolterfoth, Miss                  | " "                                                              |
| Storr, Mr.                         | 21 The Groves                                                    |
| Storr, Miss                        | " "                                                              |
| Storrar, Miss S.                   | Newgate street                                                   |
| Storrar, Mrs. Andrew               | 5 Victoria pathway, Queen's park                                 |
| *Strahan, Mr. Aubrey, M.A., F.G.S. | { H.M. Geological Survey, Museum,<br>Jermyn street, London, S.W. |
| Stubbs, Mrs.                       | The Palace, Dee side                                             |
| Summers, Mr. E.                    | 1 South view, Tarvin road                                        |
| Sumner, Mrs. A.                    | 4 Grosvenor place                                                |
|                                    |                                                                  |
| Tabor, Mr. J.                      | Church street, Upper Northgate street                            |
| *Tate, Mr. A. Norman, F.I.C.       | 9 Hackin's Hey, Liverpool                                        |
| Tatler, Mr. R. E.                  | Woodbine cottage, Louise street                                  |
| Tatler, Mr. A.                     | " "                                                              |
| Tatlock, Mr. J.                    | 21 Saint John street                                             |
| Taylor, Mr. J., F.R.C.S.           | 22 Newgate street                                                |
| Taylor, Mr. A. G.                  | 78 Watergate street                                              |
| Taylor, Mrs.                       | Meadow view, Dee banks                                           |
| Taylor, Mr. J. B.                  | 4 Hough green                                                    |
| Taylor, Mr. R. Mascie              | Tyn Llwyn, Corwen                                                |
| Tennant, Mrs.                      | City Walls (South)                                               |
| Tennant, Miss                      | " "                                                              |
| Thomas, Mr. E.                     | 18 Pepper street                                                 |
| Thomas, Dr. E. J. Haynes           | " "                                                              |
| Thomas, Mr. Frank P. Dodd          | " "                                                              |
| Thomas, Miss M.                    | " "                                                              |
| Thomas, Miss F. M.                 | " "                                                              |
| Thomas, Mr. Maurice                | 1 Coal Exchange                                                  |
| Thomas, Mr. Felix                  | The Industrial Schools, Boughton                                 |
| Thomas, Mr. E. H.                  | " "                                                              |
| Thompson, Mr. J., J.P.             | Boughton Hall                                                    |
| Thompson, Mrs. J.                  | " "                                                              |
| *Thompson, Mr. W.                  | 41 Frodsham street                                               |
| Thompson, Mrs. H.                  | Curzon park                                                      |
| Thompson, Mr. Geo.                 | 13 St. Anne street                                               |
| Thomson, Miss I.                   | Cambrian view                                                    |
| Tilston, Miss                      | 1 King's buildings                                               |
| Timothy, Mr. H. J.                 | Eccleston, Chester                                               |
| Tinkler, Mr. G.                    | 45 Nicholas street                                               |

|                                        |                                 |
|----------------------------------------|---------------------------------|
| Tomlin, Mrs. ....                      | Thorpe villa, Liverpool road    |
| Tomlin, Miss Lilian Ethel .....        | " " "                           |
| Tomlin, Miss Edith A. ....             | " " "                           |
| Tomkinson, Mr. Jas., J.P. ....         | Willington Hall, Chester        |
| Townshend, Mr. C. W. ....              | Trevallyn, Wrexham              |
| Trafford, Mr. Alfred R. ....           | 7 Cheyney road                  |
| Trelawny, Mr. H. D., J.P. ....         | Shotwick park, Chester          |
| Trelawny, The Hon. Mrs. ....           | " "                             |
| *Vincent, Mr. W. ....                  | Brook lodge, Brook lane         |
| Vincent, Mrs. W. ....                  | " "                             |
| Wakefield, Mr. T. ....                 | 1 Parkgate road                 |
| *Walker, Mr. A. O., J.P., F.L.S. ....  | The Leadworks, Chester          |
| Walker, Mrs. A. O. ....                | " "                             |
| Walker, Mr. F. A. ....                 | Hoole park                      |
| Walker, Miss ....                      | 12 Liverpool road               |
| Walley, Miss ....                      | 51 Bouverie street              |
| *Ward, Mr. J. C. ....                  | 11 Hough green                  |
| Ward, Miss. ....                       | " "                             |
| Ward, Miss. ....                       | Abbot's villas, Liverpool road  |
| Warren, Miss ....                      | Abbot's villas, Liverpool road  |
| *Waters, Dr., J.P. ....                | Nicholas street                 |
| Way, Mr. N. A. E. ....                 | 76 Watergate street             |
| Weaver, Mr. W. M. ....                 | Westminster buildings           |
| *Webster, Mr. G. Watmough, F.C.S. .... | 5 Eversley park, Liverpool road |
| Webster, Miss Amy B. ....              | 52 Watergate street             |
| Webster, Miss Janet. ....              | " "                             |
| Wells, Mr. E., Junr. ....              | Eccleston, Chester              |
| Whaley, Mr. S. ....                    | 1 Crane street                  |
| Whalley, Mr. Fred. H., P.A.S.I. ....   | Ashfield House                  |
| White, Miss E. ....                    | 5 Abbey street                  |
| Whiteley Mr. F. ....                   | Helsby, Chester                 |
| Whittington, Mr. R. C. A. ....         | 13 Abbey street                 |
| Wilbraham, Miss E. ....                | 5 King's buildings              |
| Wilbraham, Miss F. ....                | " "                             |
| Wilcock, Mr. T. M. ....                | 24 St. Martin's-in-the-Fields   |
| Wilkinson, Mr. R. ....                 | 7 Upper Northgate street        |
| Williams, Miss ....                    | Blacon House                    |
| Williams, Miss S. ....                 | " "                             |
| Williams, Mr. J. E. ....               | 61 "Upper" Northgate street     |
| Williams, Mr. T. ....                  | 6 Northgate street              |
| Williams, Rev. Watkin, M.A. ....       | Bodelwyddan, nr. Rhyl           |
| Williams, Mr. J. R. ....               | Dorchester House, Boughton      |
| Williams, Mr. C. R. ....               | The Mount, Waverton             |
| Williams, Mr. Jas. ....                | Fern Cottage, 56 Tarvin road    |
| Williams, Mr. John ....                | Aber Cottage, Saltney           |
| Willis, Mr. G. ....                    | Bunbury, Chester                |
| Wiseman, Mr. C. ....                   | The Poplars, Dee banks          |
| Wiseman, Mr. Henry ....                | " "                             |
| Wood, Mrs. ....                        | 28 Queen street                 |
| Wood, Miss ....                        | " "                             |
| Woodfin, Miss ....                     | 26 Lorne street                 |
| Wright, Mr. John R. ....               | 63 Bouverie street              |
| Yeadon, Mr. Thos. ....                 | 28 St. Anne street              |

*The following Books have been added to the Library since the last Annual Report was issued:*

### BOTANICAL SECTION.

- B 188 \*Babington (C. C.) Manual of British Botany .. 1856  
 B 196 \*Baines (Henry) Flora of Yorkshire ..... 1840  
 B 182a De Bary (A.) Comparative Anatomy of the Vegetative Organs of the Phanerogams and Ferns (Duplicate Copy.) *Presented by Dr. Stolterfoth*..... 1884  
 B 185 Ferns, British and Exotic, by E. J. Lowe, illustrated with numerous plates, 5 vols. *Presented by G. F. Clough, Esq.* ..... 1856-58  
 B 190 \*Henslow (Rev. J. S.) Descriptive and Physiological Botany.....  
 B 192 \*Hooker (Wm. J.) Flora Scotica ..... 1821  
 B 193 \*Hudsoni (G.) Flora Anglica ..... 1798  
 B 194 \*Lawson & Son, Synopsis of the Vegetable Products of Scotland ..... 1852  
 B 191 \*Phillips (Henry) Flora Historica, Vol. II. .... 1829  
 B 184 Roscoe (Mrs. E.) Floral Illustrations of the Seasons, with 55 plates. *Presented by Major Johnson*..... 1831  
 B 197 \*Simmond (P. L.) Commercial Products of the Vegetable Kingdom ..... 1854  
 B 195 \*Sowerby & Johnson, Ferns of Great Britain.... 1855  
 B 187 Storrie (J.) The Flora of Cardiff ..... 1886  
 B 189 \*Twining (Eliz.) Short Lectures on Plants..... 1858  
 B 186 Woodville's Botany, illustrated with numerous plates, 4 Vols. *Presented by G. F. Clough, Esq.*..... 1790-94

\* The Works marked (\*) were presented by the Executors of the late Dean Howson.

### GEOLOGICAL SECTION.

- G Callaway (C.) On Parallel Structure in Rocks; on the alleged Conversion of Crystalline Schists into Igneous Rocks in County Galway; a Preliminary Inquiry into the Genesis of the Crystalline Schists of the Malvern Hills..... 1887

GEOLOGICAL SECTION—*Continued.*

- G 157 Hack (M.) Geological Sketches of the Ancient Earth. *Presented by the Executors of the late Dean Howson* ..... 1832
- G Holme (T. V.) and Cole (W.) The Essex Deneholes ..... 1887
- G Hughes (T. McK.) On the Drifts of the Vale of Clwyd and their relation to the Caves and Cave-Deposits ..... 1887
- G Hughes (T. McK.) On some Perched Blocks and associated Phenomena ..... 1886
- G 156 Hunt (T. S.) Mineral Physiology and Physiography. A Second Series of Chemical and Geological Essays, with a general introduction. *Presented by the Author* ..... 1886
- G Jeffs (O. W.) The Cald-y-Grange Fault, West Kirby ..... 1887
- G Jeffs (O. W.) The Geological History of Storeton Quarry, &c. .... 1887
- G 158 Portlock (Major-Gen.) Rudiments of Geology, 5th Edition. *Presented by the Executors of the late Dean Howson*.....
- G 131 Proceedings of the Geologists' Association, Vols. IX and X., 6 Parts ..... 1887-88
- G 152 Sixth Annual Report of the United States Geological Survey, 1884-85 (Illustrated)..... 1885
- G Strahan (A.) On Explosive Slickensides ..... 1887
- G 116 Transactions of the Manchester Geological Society, Vol. XIX., 12 Parts ..... 1886-88
- G 83 Vol. XLI. of the Palæontographical Society, issued for the year 1887, containing—  
     Hinde's Fossil Sponges, Part 2. ....  
     Jones & Woodward's Palæozoic Phyllopora, Part 1.  
     Hudleston's Jurassic Gasteropoda, Part 1., No. 2...  
     Buckman's Inferior Oolite Ammonites, Part 2.

## MICROSCOPICAL SECTION.

- M 36 Quekett Microscopical Club's Journal, 3 Parts. *Presented by Dr. Stollerfoth*.....
- M Transactions and Annual Report of the Manchester Microscopical Society ..... 1887

## NATURAL PHILOSOPHY SECTION.

- NP 29 Wurtz (A) Elements of Modern Chemistry.  
*Presented by W. F. Lowe* ..... 1880

## PHOTOGRAPHIC SECTION.

- P 1 Hardwick & Taylor's Photographic Chemistry .. 1883  
P 2 Dr. J. M. Eder's Chemical Effect of the Spectrum 1883  
P 3 Arnold Spiller's Elementary Treatise on Photographic Chemistry ..... 1886  
P 4 W. H. Thornthwaite's Guide to Photography.... 1855  
P 5 I. H. Dallmeyer, F.R.A.S., On the Choice and Use of Photographic Lenses..... 1886  
P 6 The Photographic Record, Part 1 ..... 1887  
P 7 Ditto ditto Part 2 ..... 1888  
P 8 British Journal Photographic Almanac ..... 1885  
P 9 Ditto ditto ..... 1886  
P 10 Ditto ditto ..... 1887  
P 11 H. P. Robinson, Picture Making by Photography  
P 12 Ditto Pictorial Effect in Photography  
P 13 The Photographers' Indispensable Handbook, Welford & Sturmley ..... 1887  
P 14 H. P. Robinson and Capt. Abney, R.E., F.R.S., Art and Practice of Silver Printing, 2nd Edition

## ZOOLOGICAL SECTION.

- Z 76 Alder's & Hancock's Nudibranchiatæ. *Presented by Mrs. Stollerfoth from the Library of the late J. Price, Esq.*  
Z 75 Pennant (T.) British Zoology, 4 Vols. *Presented by A. O. Walker, Esq., F.L.S.* ..... 1812  
Z 78 Report of the Liverpool Bay Marine Biological Society. *Presented by Dr. Stollerfoth* .....  
Z 74 Shaw (G.) Zoological Lectures, with numerous plates, 2 Vols. *Presented by G. F. Clough, Esq.* 1809  
Z 77 Wollé's Desmids of the United States. *Presented by Dr. Stollerfoth* .....



## MISCELLANEOUS.

- Annalen des K.K. Naturhistorischen Hofmuseums*,  
Vienna, 3 Parts ..... 1887-88
- Annual Report and Proceedings of the Liverpool  
Science Students' Association, Session 1886-87 ..... 1887
- X 99 Annual Report and Transactions of the North  
Staffordshire Naturalists' Field Club and  
Archæological Society ..... 1887
- X 107 Annual Report of the Board of Regents of the  
Smithsonian Institution, 1885, Part 1. .... 1886
- X 28 Annual Report of the Brighton and Sussex  
Natural History and Philosophical Society.... 1887
- X 123-4 Annual Report of the British Association for  
1886-87, 2 Vols. *Presented by Association*.... 1887-88
- Annual Report of the Harrogate and District  
Naturalists' Society ..... 1886-87
- Boletin de la Academia Nacional de Ciencias en  
Cordoba (Republica Argentina)*, 6 Parts .....
- Henry Draper Memorial, Second Annual Report  
of the Photographic Study of Stellar Spectra,  
conducted at the Harvard College Observatory,  
U.S.A. .... 1888
- Hincks (T.) A History of the British Hydroid  
Zoophytes .....
- Proceedings of the Bristol Naturalists' Society,  
Vol. V., Part 2. .... 1887
- X Proceedings of the Chester Society of Natural  
Science, Nos. 1, 2, 3 bound in one vol. ....
- X 95 Proceedings of the Liverpool Geological Society,  
Part 3, Vol. V. .... 1887
- X 26 Proceedings of the Liverpool Naturalists' Field  
Club for 1886-87 ..... 1887
- X 27 Proceedings and Transactions of the Natural  
History Society of Glasgow ..... 1887
- X Prospectus of the Royal Agricultural College and  
Farm, Cirencester ..... 1887
- X 125 Rees (Dr.) Encyclopædia of Art, Sciences, and  
Literature; 45 vols., including 6 vols. of  
Illustrations. *Presented by Leonard Gilbert, Esq.,  
J.P.*

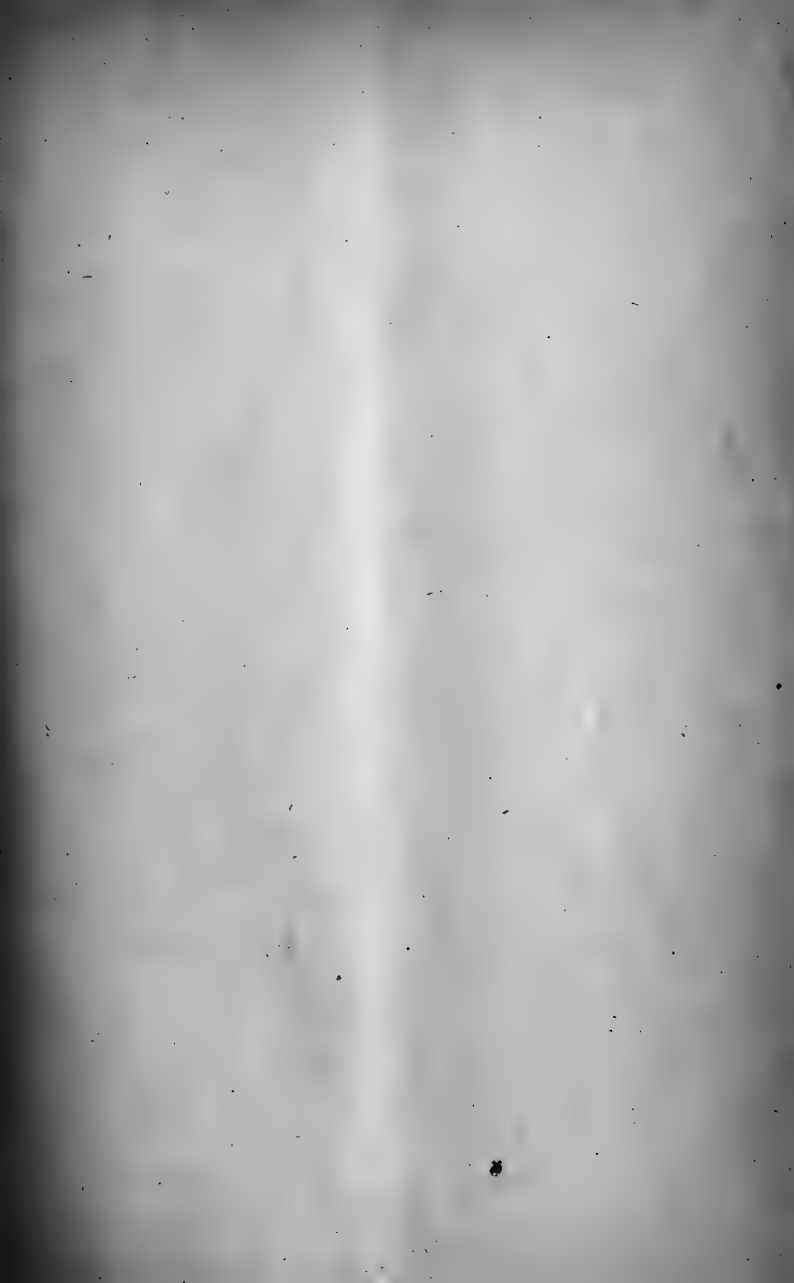
MISCELLANEOUS—*Continued.*

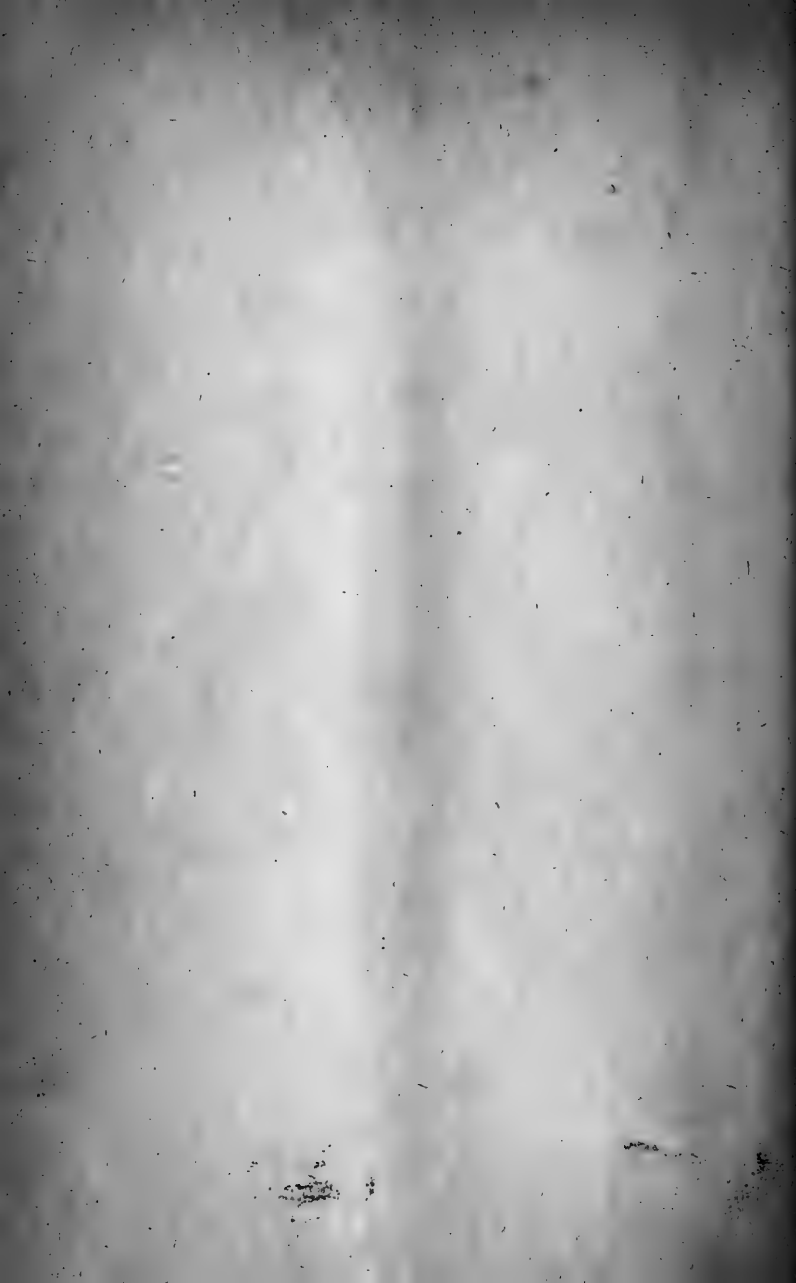
- Report and Proceedings of the Manchester Field Naturalists and Archæologists' Society for 1886 1887
- X 30 Report and Proceedings of the Manchester Scientific Students' Association for 1887 .... 1888
- X Report and Transactions of the Cardiff Naturalists' Society, 20 Parts ..... 1867-87
- Report of Commissioners on Dee Navigation Improvement. *Presented by W. Shone, Esq.* ..  
(With Plates Framed.)
- Report of the University College of Wales 1885-86..... 1886
- Reports on the recent Volcanic Eruptions in New Zealand, 3 Parts. *Presented by Mr. Geo. Joachim* .....1886-87
- X 36 The Essex Naturalist (Journal of Essex Field Club), Monthly Parts .....1887-88
- The Monthly Parts of "The Naturalist" .....
- X 92 The New Zealand Journal of Science, Vol. II., Parts 1 to 12. *Presented by Mr. Geo. Joachim*..1884-85
- The Journal of the Liverpool Astronomical Society. Monthly Parts.....1887-8
- X 95 Transactions and Proceedings of the New Zealand Institute, Vols. XVIII. and XIX. *Presented by Mr. Geo. Joachim* .....1885-86
- Transactions and Report of the Nottingham Naturalists' Society ..... 1887
- X 109 Transactions of the Burnley Literary and Scientific Club, Vol. IV., 1886 ..... 1887
- Transactions of the Liverpool Geological Association, Vol. VII. ....1886-87
- Walker (A. O.) Notes on a Collection of Crustacea from Singapore ..... 1887

NOTICE.—Copies of the SOCIETY'S PROCEEDINGS, (No. 1, price 6d., Nos. 2 and 3, price 2/6 each); also the CATALOGUE of the Society's Library, with recent additions (price 1d.) may be obtained from MR. JOHN MILLS, Eastgate Row; MR. G. R. GRIFFITH, Grosvenor Street; or the CURATOR, Grosvenor Museum.

3 SEP 1888







CHESTER  
Society of Natural Science & Literature.

(FOUNDED BY CHARLES KINGSLEY, 1871.)

EIGHTEENTH  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS,  
FOR THE YEAR 1888-9.



CHESTER:

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCLXXXIX.



CHESTER  
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EIGHTEENTH ANNUAL REPORT

AND

STATEMENT OF ACCOUNTS for 1888-89,

AND THE

LIST OF MEMBERS FOR 1889-90,

ALSO

A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION



CHESTER:

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCLXXXIX.





# Officers and Committee for 1889-90.

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DR. H. W. KING  
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## Hon. Auditors :

MR. J. ROWE DUTTON.

MR. J. H. SPENCER.

## Curator :

MR. R. NEWSTEAD, *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its object be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in the Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Second, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting, which shall be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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YOUR Committee have the pleasure of placing the Eighteenth Annual Report before the Society. The number of our Members amounts at present to 617, and the interest shown generally in the work of the Society has increased, as the scope of the work has extended. In the early days of the Society we were content with three Sections, now there are seven with the prospect of an eighth in the coming year. This is a step in the right direction for we wish as far as possible to include all those who are advancing the interests of Education. Each Section has brought as it were fresh life and new ideas amongst us, and it has been found that all subjects included under the head of Natural Science have tended wonderfully to illustrate one another. So far this is a very hopeful state of things, but in these days of competition, we must never forget that to know one thing well is infinitely better than imperfect knowledge on many heads. One subject or pursuit thoroughly mastered is the very best introduction to the taking up of any fresh study, as it will have imparted a strength and steadiness to the mind which is never attained by *dilettante* work.

It has been a source of much satisfaction to your Committee that during the past year the debt on our present Building has been entirely wiped out through the kindness and liberality of some of our Members, and we can now look forward with satisfaction to some increase of accommodation.

Our local collections during the past year have quite outgrown the room appropriated to the specimens. Excellent work has been done in this department, and we are largely indebted to our Curator, MR. R. NEWSTEAD, who, by his ability, tact, and knowledge, has proved to us that we have the right man in the right place. The details of all that has been done will be furnished in the Curator's Report, but the Committee

wish to place on record, their best thanks to HIS GRACE THE DUKE OF WESTMINSTER, MR. A. O. WALKER, and others, for their many gifts and the valuable assistance they have rendered during the past year.

The Library is in good order, and the Books so kindly lent by the Free Library Committee have again proved most useful to Students.

The Honorary Treasurer, MR. MILLS, will place before you the Balance Sheet of our Accounts, and it is hoped that the Members will find that the money of the Society has been wisely and judiciously spent.

The Account of the Kingsley Memorial Fund will be given by the Honorary Treasurer, MR. E. J. BAILLIE.

The various means used by the Society for carrying on its work we place, as on former occasions, under the following heads—

|                         |                    |
|-------------------------|--------------------|
| EXCURSIONS              | SECTIONAL MEETINGS |
| EVENING RAMBLES         | CONVERSAZIONE      |
| GENERAL MEETINGS        | PRIZES             |
| CLASSES FOR INSTRUCTION |                    |

The Excursions during the past summer were to the following places :—

|                                    |                                        |
|------------------------------------|----------------------------------------|
|                                    | 1888.                                  |
| Eaton Park Fête .....              | May 21st.                              |
| Dolgelly.....                      | June 18th.                             |
| Ince, Ellesmere, &c. ....          | July 11th, postponed<br>to Sept. 11th. |
| Mow Cop and Moreton Old Hall ..... | Aug. 14th.                             |
| Gresford and Alun Valley .....     | Aug. 30th.                             |

#### EVENING RAMBLES.

|                                 |             |
|---------------------------------|-------------|
| Waverton .....                  | May 31st.   |
| Broughton .....                 | June 7th.   |
| Sealand Road .....              | June 14th.  |
| Delamere .....                  | June 28th.  |
| Upton and Newton Nurseries..... | July 19th.  |
| Brown's Heath .....             | July 26th.  |
| Mollington Woods .....          | Aug. 2nd.   |
| Canal and Ball's Knolls .....   | Aug. 9th.   |
| Bache Hall .....                | Aug. 16th.  |
| Plemstall and Trafford .....    | Aug. 23rd.  |
| Delamere and Atchmere.....      | Sept. 13th. |

All the excursions were arranged, but owing to the exceptionally wet season some of them had to be given up, and this was the case with several of our evening rambles. It is to be hoped we shall have a more favourable season this year. Fortunately we had a splendid day for the Eaton Fête, May 21st, which we have counted amongst our excursions. Many of our most active Members devoted themselves to making the day a financial success, which, in a great measure it proved to be, and we have again to thank the DUKE OF WESTMINSTER for opening his Park to us.

Our Annual *Conversazione* took place on September 24th, rather earlier than usual, in order that we might show some hospitality to the Members of the International Geological Congress, who were many of them at that time on their way to North Wales. Upwards of sixty of their Members visited Chester, and as our *Conversazioni* are always well attended, your Committee judged that with this additional attraction, the Museum building would not offer sufficient accommodation, and were glad to avail themselves of the Town Hall, which is admirably suited to a large gathering, and which was put at our disposal by the Mayor, W. BROWN, Esq. The Members of the International Geological Congress were entertained at dinner, by the Mayor, W. BROWN, Esq., the Ex-Mayor, GEORGE DICKSON, Esq., MR. A. O. WALKER, and other Members of the Society, and then adjourned to the Town Hall, where, as far as possible, the Natural History specimens had been arranged to show the objects of local interest. Unfortunately our President, PROFESSOR MCKENNY HUGHES, was unable to be present at our *Conversazione*, owing to the serious illness of his father, the late Bishop of St. Asaph. This was a great drawback and a loss to our visitors. He too would have thoroughly enjoyed the gathering, as many of the Geological Congress were his personal friends, and doubtless looked forward to the stores of information he would have imparted during their tour in North Wales. For ourselves, we always miss his genial presence, and are heartily glad to welcome him at this our

Annual Meeting. The chair was taken by our Vice-President, MR. A. O. WALKER, who presented the Kingsley Memorial Medal to MR. SHEPHEARD, F.R.M.S., for his Microscopical researches amongst the fresh-water *Polyzoa* and *Infusoria*. Your Committee feel that the Medal has never been in the hands of a more worthy recipient, for in giving it to MR. SHEPHEARD, they give it to one who has for years been an ardent Microscopist, and one who has in many ways contributed to make the Chester Society of Natural Science a permanent and popular institution in the City and neighbourhood. The following prizes from the Kingsley Memorial Fund were also distributed—MISS LILIAN E. TOMLIN, £5 for a collection of *Coleoptera*; MR. J. ARKLE, £3 for a collection of *Micro-Lepidoptera*; MR. R. NEWSTEAD, Senr., £3 for a collection of Birds, Skins, &c.; MISS EDITH C. TOMLIN, £1 for a collection of Bees, Wasps, and Sandwasps.

After the distribution of prizes we had several addresses from our foreign visitors, which were listened to with interest, and were convincing proofs that there is nothing more potent than the pursuit of kindred studies, for the awakening of sympathy and kindly feeling amongst diverse nationalities. Subjoined are the names of some of the distinguished *savants* who were present—PROFESSOR G. CAPELLINI, Rector of the University of Bologna; PROFESSOR DR. JOSEPH SZABO, of Budapest; PROFESSOR A. DE LAPPARENT, of Paris; PROFESSOR DR. K. VON ZETTEL, of Munich; MR. C. D. WALCOTT, of the United States Geological Survey; DR. HICKS, the eminent Welsh Geologist, &c.

The Photographic Section had a room devoted to pictures, both picturesque and scientific; also a lantern show of work done by the Members during the last summer.

The Microscopes were again displayed in the Council Chamber, and our Members have to thank many kind friends for the assistance they rendered during the evening.

Collections of Fossils shown by MR. T. RUDDY, of Palè, Corwen, and MR. G. J. WILLIAMS, from Blaenau Festiniog,

were of especial interest to those Geologists who were about to visit Wales for the first time, and your Committee beg to tender to MR. RUDDY and MR. WILLIAMS their best thanks.

At the General Meetings that have been held during the past winter, the following Papers have been read—

1888.

Oct. 25—"Egypt," by T. EYTON-JONES, ESQ., M.D., Wrexham.

Nov. 22—"Microscopic Organisms of our Streams and Ponds," by MR. H. M. UNDERHILL (Hon. Secretary of the Oxford Natural History Society.)

1889.

Jan. 31—"An Evening with Micro-photographs," by DR. STOLTERFOTH, M.A.

Feb. 28—"Vegetable Parasites," by MR. J. D. SIDDALL.

Mar. 28—"The Improvement of Tidal Estuaries," by J. J. WEBSTER, ESQ., C.E.

April 25—Annual Meeting.

The General Meetings have been good and fairly well attended.

The Sectional Meetings have met for the discussion of the following subjects—

1888.

#### APPLIED SCIENCE.

Nov. 8—"Electric Lighting," by MR. F. C. PHILLIPS, M.S.T.E., A.M.I.C.E.

1889.

Feb. 21—"The Steam Engine: its Past and its Future," by the SECRETARY.

1888.

#### BOTANICAL SECTION.

Nov. 15—"Notes on the 'Protista'—the Borderland between Plants and Animals," by the CHAIRMAN.

1889.

Jan. 10—"The Structure and Life History of Mignonette (*Reseda odorata*)," by MRS. BROADBENT.

Mar. 7—"Illustrated Notes on Plant Life," by MR. H. THOMAS, Llandudno.

1888.

#### GEOLOGICAL SECTION.

Nov. 29—"Charles Kingsley's love of Nature, and its influence on his life," by the CHAIRMAN.

1889.

Jan. 24—"The Causes of Volcanoes and Earthquakes, and their Geological effects on the Earth's surface," by the SECRETARY.

Mar. 21—"The Volcanoes of South Italy, with a note on the latest theory of Volcanic action," by MR. OSMUND JEFFS (President of the Liverpool Geological Association.)

1888.

#### NATURAL PHILOSOPHY SECTION.

Dec. 13—"Some Peculiarities of Vision," by the CHAIRMAN.

1889.

Feb. 7—"Common Salt: its nature and its uses." (*Illustrated with experiments*), by the SECRETARY.

Apr. 4—"A few Mathematical ideas for non-Mathematical hearers," by MR. F. F. BROWN, M.A. (late Scholar of Gonville and Caius College, Cambridge.)

The Photographic Section have given a full account of their work in a separate Report, and therefore need not be touched upon here.

The Microscopical Section has not met during this winter, as they feel that the object for which they exist is best promoted in aiding the other Sections, both by Papers that belong to special sections, and by illustrating the work of other Members.

In the Botanical Section we would call your attention to the admirable Paper read to our Society by a Lady Member. The Paper was carefully illustrated, and commended itself by the amount of real scientific work which it involved. We can only hope other ladies may be encouraged to follow so good an example.

The Sectional work has been good and most of the Meetings well attended.

The power of illustrating by means of photographs and the lime-light has been largely called into use, and for this we owe a debt of gratitude to the Photographers now numbered amongst our Members.

During the past month there has been established a "Paxton Society," composed of working Gardeners, Agriculturists and others, with the object of considering and discussing horticultural matters and problems. This Society is an outcome of the Botanical work carried on by MR. SIDDALL for so many years, and it must be gratifying to him to see that there is a wish to turn his admirable teaching to some practical account. The subscription to this Society is very small, so that no one need be deterred on that ground. They have also elected a most excellent Secretary, MR. F. V. DUTTON. The Society will meet twice a month in the Grosvenor Museum, and will certainly help to increase our local knowledge by bringing amongst us those who are often in very close contact with nature. We wish them every success.



The experiment of a Monthly Paper giving announcements of Meetings and short Papers on various subjects connected with the different Societies located in the Museum, has had to be discontinued owing to want of support. Our Natural Science Society has returned to the old system—Notice Papers sent each month to every Member containing the announcement of Meetings only.

Your Committee express their great regret at losing from Chester, MR. A. O. WALKER, who has always proved their staunch friend and supporter. As, however, he will reside in the District, we may hope to see him from time to time, and we shall always feel sure of his interest in our Society.

Through the year there have been regular Meetings of the Committee for the transaction of business, and we hope that our Members have found that the working of the Society has been carried on for the general good of all, and the advancement of our scientific knowledge of the district.

HENRY STOLTERFOTH, M.A., M.D.,  
*Scientific Secretary.*



# CURATOR'S REPORT FOR 1888-89.

It gives your Curator much pleasure to report that the additions to the Natural History Museum during the past year exceed those of the previous one by about 600 specimens, and that a number of these specimens include some very rare species.

The following is a total abstract of the number of species and specimens :—

|                                               | Species Presented. | Species Purchased. | Total of Species. | Total of Specimens. |
|-----------------------------------------------|--------------------|--------------------|-------------------|---------------------|
| <i>Echinodermata</i> , &c. .. ..              | 18                 | ..                 | 18                | 28                  |
| <i>Coleoptera</i> (Beetles) .. ..             | 262                | ..                 | 262               | 808                 |
| <i>Hymenoptera</i> (Bees, &c.) .. ..          | 9                  | ..                 | 9                 | 16                  |
| <i>Orthoptera</i> .. ..                       | 1                  | ..                 | 1                 | 1                   |
| <i>Hemiptera</i> .. ..                        | 7                  | ..                 | 7                 | 7                   |
| <i>Lepidoptera</i> (Moths and Butterflies) .. | 248                | ..                 | 248               | 474                 |
| <i>Diptera</i> (Two-winged Flies) .. ..       | 7                  | ..                 | 7                 | 7                   |
| Various Injurious Insects .. ..               | 8                  | ..                 | 8                 | 48                  |
| <i>Aves</i> (Birds) .. ..                     | 55                 | 4                  | 59                | 75                  |
| "    "    Eggs .. ..                          | 14                 | ..                 | 14                | 44                  |
| <i>Molluscs</i> (Shells) .. ..                | 22                 | ..                 | 22                | 47                  |
| <i>Pisces</i> (Fish) .. ..                    | 7                  | 2                  | 9                 | 14                  |
| <i>Mammalia</i> (Animals) .. ..               | 8                  | ..                 | 8                 | 8                   |
| Geology .. ..                                 | 25                 | ..                 | 25                | 37                  |
| Miscellaneous .. ..                           | ..                 | ..                 | ..                | 9                   |
| <b>TOTAL</b> .. ..                            | <b>691</b>         | <b>6</b>           | <b>697</b>        | <b>1623</b>         |

The most important addition to the *Coleoptera* (Beetles) is a collection of 175 species presented by DR. J. W. ELLIS, Liverpool, most of them being new to our collection. These, as well as the other additions to this Order, have been catalogued and arranged in the Cabinet, including MISS TOMLIN'S well-mounted prize collection.

The *Lepidoptera* (Moths and Butterflies) have been well represented, and our best thanks are due to MRS. LEATHER, Delamere Lodge, who very kindly placed the whole of her

collection of Delamere insects at our disposal. Among the many good insects contained in it, was a fine specimen of the Camberwell Beauty (*Vanessa Antiopa*.) Also to MESSRS. J. ARKLE, A. O. WALKER, GEO. FRATER, A. J. NIXON, J. HANNAH, (Abergele,) and J. LYON DENSON, for several interesting insects. The Curator has also added several rare insects, including five *Imagines* and two preserved larvæ of the Bedstraw Hawk Moth (*Deilephila Galii*.) Ten life histories of this Order have been prepared. The whole collection of *Lepidoptera* has been thoroughly overhauled, re-arranged, \* and catalogued.

Eight life histories of injurious insects, with drawings, have also been prepared, and several others are in course of being worked out.

I regret to say that only two additional life histories of Birds have been prepared during the past year, viz., the Heron and Sparrow Hawk. The former is contained in a valuable glass case kindly presented by MR. THOS. SHEPHEARD, and for the life histories we are considerably indebted to HIS GRACE THE DUKE OF WESTMINSTER, K.G. Out of the total of 72 birds presented, MR. A. O. WALKER, F.L.S., has contributed no less than 29—some of them are very rare, the Raven (*Corvus corax*) being one of them. Several other interesting birds have been added by the following gentlemen—REV. E. A. PITCAIRN CAMPBELL, DR. W. H. DOBIE, MR. A. J. NIXON, and MR. NEWSTEAD, SENR., Ince. MR. HY. THOMAS, Llandudno, MR. NIXON, and MR. KEMP, have added several interesting species of birds' eggs to the collection.

Very few additions have been added to the *Mollusca* (Shells), probably owing to the fact that we have lost our very energetic collector, MR. B. TOMLIN. MR. F. ARCHER has, however, sent us in a shell (*Tectura testudinalis*) which is new to the district.

Two specimens of the Tope Shark or Tope Dog (*Galeus canis*) have been presented, one by MR. WALTON GRAY, the

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\* The arrangement adopted being that of RICHARD SOUTH's new List.

other by MR. JOHN BUCKLEY, both caught in the Dee, but neither specimens are such monsters as recorded in our local press.

Among the few additions to the *Mammalia* (Animals), is a fine specimen of the old English Black Rat (*Mus rattus*), by MR. E. W. PARNELL, F.C.S., also a white variety of the common Field Vole (*Arvicola agrestis*.)

The Curator wishes to express his sincere thanks to the following gentlemen for the use of valuable reference books to assist him in the naming, &c., of specimens—MR. A. O. WALKER, MR. THOS. SHEPHEARD, DR. STOLTERFOTH, and DR. W. H. DOBIE.

It may be satisfactory to state that all the collections, *minus* Geology and Conchology, have been numbered and catalogued. MR. GEORGE FRATER has done good work in helping your Curator with this extensive undertaking.

MR. A. W. LUCAS, F.R.G.S., very kindly arranged three table cases with Cave Bones, and one with Bala Fossils.

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N.B.—All the Specimens have been collected in the Society's District.



## LIST OF ADDITIONS.

## ECHINODERMATA, &amp;c.

By Mr. A. O. Walker—

Number of  
Specimens.

- Solaster indica*  
 1 *Luidia fragillissima*  
 1 *Porenia putvilla*  
*Pectunculus* incrustated with *Mucronella Peachii*  
 2 species *Millepedes*  
*Bowerbankia imbricata*, (Parasites from Salmon)  
*Obelia dichortoma*  
*Aglaophenia pluma*  
 4 *Annelids*

By Mr. H. Thomas—

- 8 Goose Barnacle's (*Lepas anatifera*)

By Mr. Thos. Shepherd—

- 1 *Echinoderm*  
*Sertularia polyzonias*

By Mr. Thos. Shepherd—

Number of  
Specimens.

- 4 Specimens of the Rosy Feather  
 Star (*Comatula rosacea*), mature  
 and immature forms.

By Mr. G. Dutton—

- Hair Worm (*Gordius aquaticus*)

By Mr. R. Newstead—

- 1 Spiny Lobster (*Palinurus vulgaris*)  
 1 Common Lobster (*Homarus vulgaris*)  
 2 Nipper Crabs (*Portunus puber*)

By Mr. Halkyard, Knutsford—

- Sertularia cupressina*

## COLEOPTERA (Beetles.)

By Dr. J. W. Ellis, Liverpool—

- Homalota fungi*  
 „ *vestita*  
 „ *cercylarius*  
 „ *analis*  
 „ *nigra*  
 „ *longicornis*  
 „ *atramentaria*  
 „ *melanaria*  
*Philonthus cephalotes*  
 „ *laminatus*  
 „ *marginatus*  
 „ *decorns*  
*Cyclonotum orbicularie*  
*Hydroporus erythrocephalus*  
 „ *planus*  
 „ *palustris*  
 „ *inequalis*  
 „ *depressus*  
 „ *dorsalis*  
 „ *angustalis*  
 „ *lineatus*  
 „ *melanocephalus*  
*Hydrobius fuscipes*  
 „ *angustatus*  
*Octhebius pygmeus*  
*Helophorus aeneipennis*  
 „ *aquaticus*

By Dr. J. W. Ellis, Liverpool—

- Stenus similus*  
 „ *tarsalis*  
 „ *latifrons*  
 „ *funo*  
 „ *speculator*  
 „ *Guynemeri*  
 „ *rusticus*  
 „ *impressus*  
 „ *cicindeloides*  
*Stilicus affinis*  
*Simplocaria semistriata*  
*Plectrocelis concinna*  
*Homalium rugulipenne*  
 „ *striatum*  
*Gyrinus mergus*  
 „ *distinctus*  
*Apion ononidis*  
 „ *carduorum*  
 „ *humuli*  
 „ *virens*  
*Sitones hispidulus*  
 „ *griseus*  
 „ *flavescens*  
*Bembidium gutula*, var. *obliteratum*  
 „ *minimum*  
 „ *tibiale*

## COLEOPTERA—Continued.

By Dr. J. W. Ellis, Liverpool—

Number of  
Specimens.

*Oxytelus maritimus*  
*Ceuthorrhynchidius troglodytes*  
*Aleochara lanuginosa*  
     *nitida*  
*Xantholinus punctatulus*  
     *pubescens*  
*Tachinus marginellus*  
     *humeralis*  
*Othius fulvipennis*  
*Ocytus cupreus*  
     *morio*  
*Ptenidium formicetorum*  
*Rhizophagus dipustulatus*  
*Byturus tomentosus*  
*Mycetophagus quadripustulatus*  
*Meligethes picipes*  
*Parnus auriculatus*  
*Choleva fusca*  
     *velox*  
*Cyprinus œneus*  
*Cytilus varius*  
*Epuraea æstiva*  
*Silpha sinuata*  
*Brachypterus urticae*  
*Onthophagus fracticornis*  
*Corymbites holocericeus*  
*Cryptohypnus riparius*  
*Dolopius marginatus*  
*Simonius cylindricus*  
*Cercyon littorale*  
     *flavipes*  
     *unipunctatus*  
     *quisquilius*  
     *pygmeus*  
*Aphodius conspersatus*  
     *scybalarius*  
     *sordidus*  
     *fætens*  
     *subterraneus*  
     *rufescens*  
     *prodromus*  
     *granarius*  
     *merdarius*  
     *plagiatus*  
     *contaminatus*  
     *ater*  
     *inquinatus*  
*Anthonomus rubi*  
*Philhidrus ovalis*  
*Coccinella oblongoguttata*  
     *mutabilis*  
     " 18 *guttata*  
*Stomis pumicatus*  
*Pterostichus virtrius*

By Dr. J. W. Ellis, Liverpool—

Number of  
Specimens.

*Harpalus latus*  
     " *neglectus*  
     " *tardus*  
*Dichirotrichus pubescens*  
*Cryptopleurum atomarium*  
*Quedius auricomus*  
     " *molochinus*  
     " *boops*  
*Cassius Xantholoma*  
*Phytosus balticus*  
*Ditiscus punctulatus*  
*Lacobius nigriceps*  
*Octhebius bicolor*  
*Megasternum Boletophagum*  
*Leiodes humeralis*  
*Myrmedonia canaliculata*  
*Oxyopoda lividipennis*  
     " *alternans*  
*Platystethus arenarius*  
*Homalium vile*  
*Protenius brevicollis*  
*Megarthritis depressus*  
     " *denticollis*  
*Oligota atomaria*  
*Gyrophena affinis*  
*Conurus pubescens*  
*Boletobius trinitatus*  
*Philonthus splendens*  
     " *finetarius*  
     " *bipustulatus*  
     " *varians*  
     " *trossulus*  
*Baptolinus alternans*  
*Lithocharis ochracea*  
*Dianous cærulescens*  
*Oxytelus laqueatus*  
     " *sculpturatus*  
*Cistela murina*  
*Thyamis tabida*  
*Xeugophora subspinosa*  
*Psylliodes affinis*  
*Spheroderma cardui*  
*Adimonia suturalis*  
*Bradycellus similis*  
     " *cognatus*  
     " *harpalinus*  
*Hyphydrus ovatus*  
*Noterus sparsus*  
*Ilybius ater*  
*Liopterus agilis*  
*Agabus Sturmii*  
*Octotemnus glabriculus*  
*Ceuthorrhynchus contractus*  
*Liosoma ovatula*

## COLEOPTERA—Continued.

By Dr. J. W. Ellis, Liverpool—

Number of  
Specimens.

*Polydrosus cervinus*  
*Otiorhynchus ovatus*  
 " *ligneus*  
*Strophosomus limbatus*  
*Erirrhinus acridulus*  
*Strophosomus coryli*  
*Phyllobius oblongus*  
*Cleonus sulcirostris*  
*Phyllobius pomonæ*  
*Heliopathes gibbus*

By Mr. A. O. Walker—

21 Species

By Mr. J. Arkle—

4 *Anomala frischeri*  
 7 other Species

By Mr. B. Tomlin—

4 *Lacon murinus*  
 1 *Tachypus flavipes*  
*Heliopathes gibbus*  
 6 *Aphodius hæmorrhoidalis*  
 6 *Barypiethes brunnipes*  
 5 *Ægialia arenaria*  
 6 *Elater balteatus*  
 1 *Helophorus aquaticus*  
 2 *Aphodius conspurcatus*  
 4 " *scybalarius*  
 1 " *rufipes*  
 6 *Demetrias atricapillus*  
 5 *Ægialia arenaria*  
 6 *Elater balteatus*  
 4 *Attelabus curculionoides*  
 2 *Grypidius equiseti*  
 2 other Species

By Dr. Parry—

2 *Blaps mucronata*

By Mr. E. Halkyard, Knutsford—

Number of  
Specimens.

9 Species

By Mr. Nixon—

1 *Silpha quadripunctata*  
 1 *Malachius aeneus*  
 2 *Attelabus curculionoides*  
 2 *Aphodius fætens*  
 122 other Species

By Master F. R. Bolland—

1 *Clytus arietus*

By Mr. Thos. Shepheard—

2 *Nebria brevicollis*  
 1 *Philonthus ebeninus*  
 7 other Species

By Mr. R. Newstead—

2 *Omalium rugulipenne*  
 1 *Geotrupes typhæus*  
*Anchomenus marginatus*  
 2 *Bembidium quadrimaculatum*  
 6 " *biguttatum*  
 4 *Aphodius fætens*  
 36 other Species

Mr. J. Lyon Denson—

Larvæ and pupæ of *Tenebrio molitor*

By Mrs. Leather—

1 *Cicendela campestris*

By Miss Caldecott—

2 *Melœ violaceus*

## HYMENOPTERA (Bees.)

|   |                                          |    |    |    |                      |
|---|------------------------------------------|----|----|----|----------------------|
| 3 | <i>Andrena nigroænea</i>                 | .. | .. | .. | By Dr. John W. Ellis |
| 1 | <i>Sphecodes ephippia</i>                | .. | .. | .. | " "                  |
| 1 | Specie (?)                               | .. | .. | .. | " "                  |
| 4 | Species                                  | .. | .. | .. | Mr. J. Arkle         |
|   | Imagines and Larva of <i>Sirex gigas</i> | .. | .. | .. | Capt. Potts, Mold    |
| 1 | Nest of <i>Vespa Britanica</i>           | .. | .. | .. | Rev. J. F. Buckler   |

## ORTHOPTERA.

1 Locust (*Locusta migratoria*) .. .. By Mr. G. W. Shrubsole

## HEMIPTERA.

|   |         |    |    |    |    |                    |
|---|---------|----|----|----|----|--------------------|
| 1 | Specie  | .. | .. | .. | .. | By Mr. T. Shepherd |
| 3 | Species | .. | .. | .. | .. | „ A. O. Walker     |
| 3 | Species | .. | .. | .. | .. | „ R. Newstead      |

## LEPIDOPTERA (Moths and Butterflies.)

By Mr. J. Arkle

Number of  
Specimens.

|    |                                    |
|----|------------------------------------|
| 6  | <i>Odonestris potatoria</i>        |
| 8  | <i>Liparis salicis</i>             |
| 4  | <i>Agrotis exclamationis</i>       |
| 5  | <i>Leucana pallens</i>             |
| 1  | <i>Lomaspilis marginata</i>        |
| 2  | <i>Ypsipiles elutata</i>           |
| 2  | <i>Phigalia pilosaria</i>          |
| 3  | <i>Liparis auriflua</i>            |
| 2  | <i>Geometra papilionaria</i>       |
|    | Larvæ of <i>Arctia lubricipeda</i> |
|    | <i>Odonestris potatoria</i>        |
|    | <i>Arctia caja</i>                 |
|    | <i>Amphydasis betularia</i>        |
| 4  | <i>Eubolia lineolata</i>           |
| 1  | <i>Larentia multistrigaria</i>     |
| 1  | <i>Ennomos tiliaria</i>            |
| 1  | <i>Heliophobus popularis</i>       |
| 4  | <i>Eubolia lineolata</i>           |
| 27 | Species of Micro-lepidoptera       |

By Mrs. Leather, Delamere Lodge—

|   |                                           |
|---|-------------------------------------------|
| 2 | <i>Gonepteryx Rhamni</i>                  |
| 9 | <i>Colias Edusa</i>                       |
| 2 | <i>Anthocaris Cardamines</i><br>(females) |
| 4 | <i>Cynthia Cardui</i>                     |
| 1 | <i>Vanessa Antiopa</i>                    |
| 4 | <i>Argynnis Selene</i>                    |
| 2 | „ <i>Euphrosyne</i>                       |
| 5 | <i>Thecla Quercus</i>                     |
| 4 | „ <i>Rubi</i>                             |
| 3 | <i>Procris statices</i>                   |
| 4 | <i>Smerinthus ocellatus</i>               |
| 2 | <i>Acherontia Atropus</i>                 |
| 1 | <i>Sphinx Convolvuli</i>                  |
| 1 | <i>Charocampa porcellus</i>               |
| 2 | <i>Hepialus sylvinus</i>                  |
| 3 | <i>Dicranura furcula</i>                  |
| 2 | <i>Notodonta camelina</i>                 |
| 2 | <i>Phragmatobia fuliginosa</i>            |
| 2 | <i>Lasiocampa Quercus</i>                 |
| 1 | „ <i>Var Callunæ</i>                      |
| 3 | <i>Cymatophora diluta</i>                 |
| 2 | <i>Hydræcia nictitans</i>                 |
| 4 | <i>Heliophobus popularis</i>              |
| 1 | <i>Miana literosa</i>                     |

By Mrs. Leather, Delamere Lodge—

Number of  
Specimens.

|   |                                    |
|---|------------------------------------|
| 2 | <i>Triphœna Ianthina</i>           |
| 2 | <i>Noctua umbrosa</i>              |
| 2 | <i>Trachea piniperda</i>           |
| 1 | <i>Tæniocampa instabilis</i>       |
| 1 | <i>Orthosia lota</i>               |
| 2 | <i>Scopelosoma satelletia</i>      |
| 1 | <i>Xanthia silago</i>              |
| 2 | <i>Agrotis porphyrea</i>           |
| 3 | <i>Miselia Oxycanthæ</i>           |
| 1 | <i>Calocampa velusta</i>           |
| 2 | „ <i>exoleta</i>                   |
| 4 | <i>Anarta myrtilli</i>             |
| 2 | <i>Plusia Festuæ</i>               |
| 1 | <i>Plusia pulchrina</i>            |
| 1 | <i>Phytometra Ænea</i>             |
| 2 | <i>Metrocampa margaritata</i>      |
| 3 | <i>Abraxus ulmata</i>              |
| 1 | <i>Phigalia pilosaria</i>          |
| 6 | <i>Amphidasis betularia</i>        |
| 1 | <i>Anisopteryx æscularia</i>       |
| 3 | <i>Pachycnemia hippocastinaria</i> |
| 4 | <i>Chesias spartiata</i>           |
| 1 | „ <i>obliquaria</i>                |
| 2 | <i>Eubolia bipunctata</i>          |
| 3 | <i>Aspilates strigillaria</i>      |
| 1 | <i>Crambus pinetellus</i>          |
| 2 | <i>Lomaspilis marginta</i>         |
| 1 | <i>Fidonia atomaria</i>            |
| 2 | <i>Euthemonia russula</i>          |
| 2 | <i>Aplecta nebulosa</i>            |
| 2 | <i>Procris staticis</i>            |
| 3 | <i>Polyommatus Ægon</i>            |
| 1 | <i>Crambus margarataria</i>        |
| 1 | <i>Cuculia umbratica</i>           |
| 1 | <i>Cidaria corylata</i>            |
| 1 | <i>Halias prasinana</i>            |
| 4 | other Species                      |
| 2 | Pupæ of <i>Dicranura vinula</i>    |
| 1 | Pupa of <i>Anarta Myrtilli</i>     |

By Mr. A. O. Walker—

|   |                                       |
|---|---------------------------------------|
| 1 | <i>Agrotis exclamationis</i>          |
| 2 | <i>Larentia pectinitaria</i>          |
| 1 | <i>Eupithecia venosata</i>            |
| 2 | Larvæ of <i>Diloba cæruleocephala</i> |
| 1 | <i>Vanessa cardui</i>                 |
| 1 | <i>Hadena contigua</i>                |



## LEPIDOPTERA—Continued.

By Mr. Nixon—

Number of  
Specimens.

Various larvæ and imagines

By Mr. J. Hannah, Abergele—

- 4 *Vanessa C. album*
- 2   " *cardui*
- 2 *Satyrus semele*
- 2 *Pararge egeria*
- 3 *Epinephele hyperanthes*
- 1 *Argynnis paphia*
- 1   " *aglaia*

By Mr. F. Archer—

- 1 *Trachea piniperda*

By Mr. S. J. R. Dickson—

- 1 *Dicranura vinula*

By Mr. W. G. Schröder—

- 1 Variety of *Pieris napi*

By Mr. Conway—

- 2 *Smerinthus populi*

By Mr. J. D. Siddall—

- 1 *Larentia multistrigaria*

By E. Siddall—

- 1 *Acherontia atropus*

By Mr. J. Lyon Denson—

- Ovæ of *dicranura vinula*
- Pygæa bucephala*
- Larva of *Bombyx Quercus*

By Master Garland—

- Various larvæ

By Dr. John W. Ellis, Liverpool—

- 2 *Tæniocampa opima*

By Mr. Geo. Frater—

- Larvæ of *Eriogaster lanestris*

- 1 *Ciliz spinula*
- 3 *Emmelesia albulata*
- 1 *Selenia illunaria*

By Mr. Geo. Frater—

Number of  
Specimens.

- 1 Larvæ of *Diloba cæruleocephala*
- 2 *Xysipites ruberata*
- 1 *Lomaspilis marginata*
- 1 *Ligdia adustata*
- 1 *Lycæna minima* (Fues)
- 10 other Species, and several larvæ

By Mr. R. Newstead—

- 5 *Nyssia hispidaria*
- 8 *Hybernia leucophearia*
- 2 *Anisopteryx æscularia*
- 1 *Tæniocampa instabilis*
- 1   " *rubicosa*
- 1 *Cymatophora flavicornis*
- 1 *Macaria liturata*
- 2 *Fidona piniaria*
- 1 *Acronycta leporina*
- 1 *Ligdia adustata*
- 1 *Dianthechia cucubali*
- Series of *Polyommatus alsus*
- 1 *Acronycta alni* (bred)
- 3 Larvæ of *Halias prasinana*
- 3 *Oporabia dilutata*
- 3 Varieties of *Hybernia pennaria* (bred)
- 1 *Pericallia syringaria*
- 2 *Cymatophora duplaris* (bred)
- 1 *Hadena pisi* (bred)
- 5 *Deilephila Galii* (bred from Wallasey larvæ)
- 2 Preserved larvæ & pupæ of ditto
- 5 *Pæcilocampa populi*
- 5 Larvæ of *Notodonta dromedarius*
- 5 Larvæ of *Notodonta camelina*
- 3   " *Platapteryx falcata*
- 3 *Amphydasis betularia*
- 1 *Acronycta Leporina*
- 39 other Species
- Life history of *Arctia caja*
- " *Cosmia trapesina*
- " *Eriogaster lanestris*
- " *Zygæna filipendulæ*
- " *Diloba cæruleocephala*
- " *Odonestris potatoria*
- " *Himera pennaria* (var.)

## INJURIOUS INSECTS.

By Mr. R. Newstead—

- 6 Life History of *Swammerdamia pyrella*, with drawings

By Mr. R. Newstead—

- 6 Life History of the Horne Leaf Miner (*Phytomy nigricornis*), with drawin

## INJURIOUS INSECTS—Continued.

By Mr. R. Newstead—

Number of  
Specimens.

- 9 Life History of Wire-worm  
(*Agriotes obscurus*), with  
drawings
- 6 Life History of Mussel Scale  
(*Aspidiotis conchiformis*),  
with drawings
- 6 Life History of Plum Scale  
(sp.), with drawings

By Mr. R. Newstead—

Number of  
Specimens.

- 6 Life History of Peach and  
Nectarine Scale (sp.), with  
drawings.
- 3 Life History of Currant Bud  
Mite (*Phytoptis Ribis*), with  
drawings
- 6 Life History of Green Oak  
Tortrix (*Tortrix viridana*)

## DIPTERA (Two-winged Flies.)

By Mr. E. Halkyard, Knutsford—

- Syrphus Sibesii*  
" *clypeata*  
" *balteata*  
*Rhingia rostrata*

By Mr. E. Halkyard, Knutsford—

- Eristalis tenax*  
*Volucella pellucens*  
*Leptis scolopacea*

## AVES (Birds.)

By His Grace the Duke of West-  
minster—

- 1 Crested Grebe (*Podiceps cris-  
tatus*)  
Nest and 4 Young Herons  
(*Ardea cinerea*).  
Nest, Eggs, and Young Wild  
Ducks (*Anas boschas*)  
Nest, Eggs, Male and Female  
Sparrow Hawk (*Accipiter  
nisus*)

By Lord Robert Grosvenor—  
Merlin (*Falco Esalon*)

By Mr. C. Smith—

- Herring Gull (*Larus argentatus*)  
Nest and Young Moorhens  
(*Gallinula chloropus*)  
1 Common Gull (*Larus marinus*)

By Mr. J. Kemp—

- Nest and Eggs of Redshank  
(*Totanus calidris*)  
Nest and Eggs of Black-headed  
Gull (?) (*Larus ridibundus*)  
3 Eggs of Redshank (*Totanus  
calidris*)

By Mr. Garland—

- 2 Eggs of Hawfinch
- 3 Shoveler Ducks (*Anas clypeata*)

By Mr. A. O. Walker—

- 2 Red-throated Divers (*Colymbus  
septrionalis* L.)

By Mr. A. O. Walker—

- 3 Jays (*Garrulus glandarius* L.)  
Life History of the Kestrel  
Hawk (*Falco tinnunculus*),  
Male, Female, 3 Young,  
Egg, and Nest
- 1 Green-shank (*Totanus Gblttis*)
- 1 Short-eared Owl (*Asio accipit-  
rinus*)
- 1 Little Auk (*Mergulus alle* L.)
- 1 Raven (*Corvus corax*)
- 1 Long-eared Owl (*Asio Otus*)
- 1 Barn Owl (*Aluco flammeus* L.)
- 2 Red-throated Divers, summer  
plumage) (*Columbus sep-  
tentrionalis*)
- 1 Knot (*Tringa canutus*)
- 2 Common Sandpipers (*Actitis  
hypoleucos*)
- 2 Little Ringed Plovers (*Ægia-  
litis caronica*)
- 1 Water Rail (*Rallus aquaticus*)
- 1 Cormorant (*Phalacrocorax carbo*)
- 1 Herring Gull (*Larus argentatus*)
- 1 Common Gull (*Larus canus*)
- 1 Grebe (sp. ?)
- 1 Oyster Catcher (*Hematopus  
ostralegus*)

By Mr. J. Lyon Denson—

- 1 Great Black-backed Gull (*Larus  
marinus*)

## AVES—Continued.

By Rev. E. A. Pitcairn Campbell—  
Number of  
Specimens.

- 1 Spotted Crake (*Crex porzana*)
- 2 Common Snipe (*Scolopax gal-  
linago*)
- 2 Jack Snipe (*Scolopax gallinula*)
- 1 Water Rail (*Rallus aquaticus*)

By Mr. R. Newstead, Senr., Ince—  
1 Albino variety of the Blackbird  
(*Turdus merula*)

By Mr. R. P. Bradbury—  
1 Redshank (*Totanus calidris*)

By Mr. Worker, Mollington—  
3 Hawfinches (*Coccothraustes vul-  
garis*)

By Mr. A. J. Nixon—  
1 Heron (*Ardea cinerea*)  
1 Pochard (*Fuligula ferina*)

By Miss Bretherton—  
1 Lapwing (*Vanellus cristatus*)

By Captain Griffith—  
1 Yellow Bunting (*Emberiza  
citrinella*)

By Mr. Taylor—  
1 Little Grebe (*Podiceps minor*),  
intermediate plumage

By Mr. J. M. Porter, Colwyn Bay—  
Number of  
Specimens.

- 1 Cormorant
- 2 Young Herring Gulls

By Mr. Hugh Lyle Smyth—  
2 Jays (*Garrulus glandarius*)

By Dr. W. H. Dobie—  
2 Great Spotted Woodpeckers  
(*Picus major*)  
1 Green Sandpiper (*Helodromas  
ochropus*)  
1 White var. of Common Jack-  
daw (*Corvus monedula*, L.)

By Mr. Large—  
1 Great Spotted Woodpecker  
(*Picus major*)

By Mr. Stretch, Ledsham—  
1 Hooded Crow (*Corvus cornix*)

Purchased—  
1 Spotted Crake (*Crex porzana*)  
1 Scaup Duck (*Anas marila*)  
1 Common Tern (*Sterna fluvi-  
atilis*)  
1 Black Start (*Ruticilla tithys*)

## EGGS.

By Mr. Nixon, Manley—  
1 Wood Wren  
1 Black-cap Warbler  
1 Common Bunting  
1 variety of House Sparrow  
1 Green Wood-pecker

By Mr. H. Thomas—  
2 Common Gulls  
6 Guillemots  
3 Cormorants

By Mr. Howard Nicholson—  
5 common species

By Mr. E. Siddall—  
1 Swan

By Mrs. G. A. Dickson—  
4 Guillemots

By Mr. A. O. Walker—  
Nest and Eggs of Chiff Chaff  
(*Sylvia rufa*)  
Eggs and Young Lapwing  
(*Vanellus cristatus*)

## MOLLUSCA (Shells.)

By Mr. B. Tomlin—  
3 *Vertigo edentula*  
1 *Solen pellucidus*  
*Helix rupestris*

By Mr. B. Tomlin—  
8 *Pupa umbilicata*  
1 *Conulus fulons*  
2 *Rissoa parva*

## MOLLUSCA—Continued.

By Mr. B. Tomlin—

Number of  
Specimens.

- 2 *Helix Sericea*  
 3 *Hyalinia pura* (var. *margaritacea*)  
*Pupa marginata*  
*Buccinum undatum*

By Mr. F. Archer—

- 1 *Tectura testudinalis*  
 Series *Pholas candida*

By Mr. Lucas—

- 2 *Fusus antiquus*  
 1 *Pecten maximus*

By Mr. A. O. Walker—

Number of  
Specimens.

- 1 *Tapes virgineus*  
 1 *Pectunculus glycymerus*  
 1 *Cardium echinatum*  
 1 *Helcion pellucidum*  
 1 *Venus ovata*

By Mr. Hy. Thomas—

- 1 *Sepiola Rondeletii*

## PISCES (Fish.)

By Mr. A. O. Walker—

- 1 Greater Forked Beard (*Physis furcatus*)  
 2 Roach (*Leucis rutilus*)  
 2 Bream (*Abramis brama*)  
 1 Conger Eel (*Conger vulgaris*)

By Mr. Guy—

- 1 Perch (*Perca fluviatilis*), weight 1lb. 6oz.  
 2 Bream

By Mr. John Buckley, Heswall—

- 1 Tope Shark (*Galeus canis*),  
 length 4ft. 7in., weight 25lbs

By Mr. Walton Gray—

- 1 Young Shark (*Galeus canis*)

Purchased—

- 1 Three-bearded Rockling  
 1 Young Salmon (*Salmo salar*)  
 1 „ (?)

## MAMMALIA (Animals)

By Mr. Siddall—

- 1 Common Stoat (*Mustela erminea*)

By Mr. Cecil Smith—

- 1 Common Stoat (white variety)

By Mr. Jas. Collinge—

- 1 Great Bat (*Scotophilus noctulæ*)

By Miss Tomlin—

- 1 Hedgehog (*Erinaceus Europæus*)

By Mr. W. Smith, Nantwich—

- 1 Albino var. Common Field Vole  
 (*Arvicola agrestis*)

By Dr. W. H. Dobie—

- Common Stoat (*Mustela erminea*)

By Mr. E. W. Parnell—

- 1 Old English Black Rat (*Mus rattus L.*)  
 1 Common Mole (*Talpa Europæa*)

## GEOLOGY.

By Mr. A. O. Walker—

- Several Fish *Coprolites*, and 4  
 Sections of ditto, mounted  
 for the Microscope

By Mr. W. C. Jones—

- Specimens of Zinc Blende

By Mr. E. Myddleton—

- 23 Specimens of Drift Coral from  
 Drift Gravel at Padeswood

## MISCELLANEOUS.

By Dr. H. Stolterfoth—  
Photographs of Flea (*Pulex irritans*)

By Mr. F. Archer, Crosby—  
1 Hammer Stone, from a fissure on Little Orme

By Mr. A. O. Walker—  
Catalogue of British Coleoptera, bound and interleaved

By Miss A. Okell—  
Coloured Drawings of Larvæ

By Mr. Thos. Shepheard—  
2 Glass Jars  
Large Glass Case for Life History of Herons, size 5' 6" X 3' X 6' 2"

By Mr. Hy. Thomas—  
Collection of Preserved Ferns, collected by Miss Potts

By Mr. J. D. Siddall—  
Labels for Microscopic Slides

R. NEWSTEAD, CURATOR.

*April 20th, 1889.*



The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1889.

| Dr.                                                  | £ s. d.          | £ s. d. | Cr.                                           | £ s. d.          |
|------------------------------------------------------|------------------|---------|-----------------------------------------------|------------------|
| By Balance from 1887-88 .. ..                        | 1 11 7½          |         | To Museum Management Committee .. ..          | 52 2 0           |
| „ Subscriptions—                                     |                  |         | „ Library—New Books, &c. .. ..                | 2 11 7           |
| 6 for 1886-87, at 5/- .. ..                          | 1 10 0           |         | „ Museum .. ..                                | 15 18 5          |
| 30 „ 1887-88, at 5/- .. ..                           | 7 10 0           |         | „ Printing, Stationery, &c... ..              | 42 14 0          |
| 539 „ 1888-89, at 5/- .. ..                          | 134 15 0         |         | „ Postages, Telegrams, &c. .. ..              | 18 17 11½        |
|                                                      | 143 15 0         |         | „ Subscriptions—                              |                  |
| „ Balance on Evening Meetings' Account .. ..         | 6 4 9            |         | Palæontographical Society .. ..               | 1 1 0            |
| „ „ Excursion Account .. ..                          | 0 13 3           |         | National Footpaths Preservation Society .. .. | 0 10 6           |
| „ Sale of Proceedings, Library Catalogues, &c. .. .. | 0 3 10           |         | International Geological Congress .. ..       | 0 10 0           |
|                                                      |                  |         | Balance .. ..                                 | 18 3 0           |
|                                                      | <u>£152 8 5½</u> |         |                                               | <u>£152 8 5½</u> |

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23RD MAY, 1889—Examined and found correct, shewing a balance in the hands of the Treasurer  
of Eighteen Pounds Three Shillings.

JOHN MILLS,  
HON. TREASURER.

J. ROWE DUTTON, }  
J. H. SPENCER, }  
HON. AUDITORS.

# "KINGSLEY MEMORIAL" FUND.

STATEMENT OF ACCOUNT for the Year ended 30th April, 1889.

| Dr.                                     |    |         | Cr.                                                    |       |                |        |
|-----------------------------------------|----|---------|--------------------------------------------------------|-------|----------------|--------|
|                                         | £  | s. d.   | £                                                      | s. d. | £              | s. d.  |
| To Balance ..                           | .. | 52 4 10 | By Mr. R. Newstead, Curator, Grosvenor Museum—         |       |                |        |
| " G. W. Dividends ..                    | .. | ..      | Grant for additions to the Natural History             |       |                |        |
| " Bankers' Interest ..                  | .. | 17 3 5  | Museum ..                                              | ..    | 10 0 0         |        |
| " Proceeds—Sale of Transactions to date | .. | 0 15 3  | " Mr. R. Newstead, Senior, <i>re</i> Kingsley Memorial |       |                |        |
|                                         | .. | 0 5 0   | Prize Fund ..                                          | ..    | 3 0 0          |        |
|                                         |    |         | " Mr. J. Arkle                                         | do.   | do.            | 3 0 0  |
|                                         |    |         | " Miss L. E. Tomlin                                    | do.   | do.            | 5 0 0  |
|                                         |    |         | " Miss E. C. Tomlin                                    | do.   | do.            | 1 0 0  |
|                                         |    |         | " Dr. Stolterfoth                                      | do.   | do.            | 1 1 0  |
|                                         |    |         | " Mr. J. D. Siddall for Medals                         | ..    | ..             | 2 5 0  |
|                                         |    |         | " Altering wording on Medal (reverse) ..               | ..    | ..             | 2 6 6  |
|                                         |    |         | " Advertising ..                                       | ..    | ..             | 2 1 0  |
|                                         |    |         | " Painting Names on Record Boards ..                   | ..    | ..             | 0 7 0  |
|                                         |    |         | Balance ..                                             | ..    | ..             | 40 8 0 |
|                                         |    |         |                                                        |       | <u>£70 8 6</u> |        |

APRIL 15TH, 1889—Examined and found correct,

W. VINCENT,  
HON. AUDITOR.

EDMUND J. BAILLIE,  
HON. TREASURER.

## PHOTOGRAPHIC SECTION.

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### RULES.

1. Each Member shall pay an Annual Subscription of 2/6, due in advance.

2. The affairs of the Section shall be managed by a Committee of at least seven Members; three to form a quorum. This Committee to be elected annually by ballot.

3. The Chairman and Secretary of the Section to be *ex-officio* Members of the Committee.

4. The Committee shall from time to time fill up any vacancies that may occur in their own body; they shall manage the affairs of the Section, and shall have the power of appointing Committees from amongst themselves or the other Members of the Section, and of framing Bye-laws that may become necessary for the management; but these Bye-laws must be passed by the first General Meeting before coming into effect.

5. The Annual Meeting shall be held on the last Friday in March to receive the Report of the Committee and the Financial Statement, to nominate (by ballot) Chairman and Secretary, and to elect Members of Committee for the ensuing Session. No alteration of the Bye-laws shall be made except at the Annual Meeting, or at a Special General Meeting called by the Chairman, or at the request of five Members; seven days' notice of such proposed alteration being sent to every Member in the circular convening the Meeting.

6. That a Meeting of the Section be held once a month.

7. Voting on all questions shall be decided by a majority of the Members present, the Chairman having the power to decide an equality of votes by a casting vote, in addition to his ordinary one.

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### REPORT.

IN presenting their first Report of the work of this Section, the Committee would note with much satisfaction the success which has thus far attended its formation, and the lively interest which has been shewn in its proceedings.

It will be within the recollection of most Members that a *Photographic Society* was formed on the 16th March, 1887, at a Meeting convened for the purpose at the Grosvenor Museum, when thirty-two persons joined, but very shortly it was deemed



advisable to alter its constitution, and by permission of the Natural Science Society it was refounded as the "Photographic Section" of that body.

Since then Meetings have been held regularly throughout the winter months, which have been well attended, and much interest has been aroused in the subjects discussed. The number of Members has also increased to sixty-three.

The collection of Photographs exhibited at the last *Conversazione* met with much commendation, both for their artistic worth and their admirable execution. Prizes were awarded as follows:—

|                                                                      |                      |
|----------------------------------------------------------------------|----------------------|
| For Instantaneous Work, to                                           | MR. F. T. FARRIMOND. |
| „ Landscape                                                          | MRS. T. H. HIGNETT.  |
| „ Architecture                                                       | MR. F. EVANS.        |
| „ Life Studies                                                       | MR. E. PULLING.      |
| „ Photographs of Scientific<br>interest, viz., Photo-<br>micrographs | DR STOLTERFOTH.      |

In addition to the more strictly technical Meetings, the Section has been instrumental in arranging several Public Lectures, illustrated by Photographic Lantern Slides, which have afforded much pleasure to large audiences. In this connection the Committee would desire especially to recognize the kindness of MR. G. E. THOMPSON, of Liverpool, whose "Waterways of Holland," and "Italian Pictures," charmed those fortunate enough to be present.

Members are reminded that the Developing Room is now open for their use, and is fairly well equipped with apparatus. Also, that they have permission to photograph in Eaton and Hawarden Parks upon production of their tickets of Membership. The Committee tender their respectful thanks to HIS GRACE THE DUKE OF WESTMINSTER, K.G., and to MR. W. H. GLADSTONE for their kindness in this respect; and also to the former for his valuable gift of the Enlarging Apparatus now in use by the Society.

Hereto is annexed the Hon. Secretary's Statement, shewing a satisfactory financial position.

The Committee trust that during the coming Session the Members will do their utmost to promote the welfare of both Summer Excursions and Winter Meetings, remembering that it is upon their own mutual efforts the continual progress and prosperity of the Section will depend.

Appended is a list of the several Meetings held and subjects treated of.

1887.

- June 22.—“The Platinotype Process,” by MR. W. P. J. FAWCUS.  
 Nov. 9.—“Lantern Slides,” by MR. F. EVANS.  
 Nov. 24.—“Paper Negatives and Stripping Films,” by MR. E. W. PARNELL.  
 Dec. 1.—“Exhibition of Negatives, Prints, and Lantern Slides, by the MEMBERS.  
 Dec. 16.—“Enlarging,” by MESSRS. E. W. COWAN, and W. P. J. FAWCUS.

1888.

- Jan. 19.—“Picturesque Glimpses of Italy,” by MR. G. E. THOMPSON.  
 Mar. 8.—“Light and Colour,” by REV. A. H. FISH, B.Sc.  
 April 19.—“Composition,” by MR. T. WALMSLEY PRICE.  
 June 2.—Discussion on Instantaneous Shutters.  
 Nov. 1.—“Photo-micrography,” by DR. STOLTERFOTH.  
 Nov. 28.—“Photographic Apparatus and its manipulation, by MR. W. P. J. FAWCUS.  
 Dec. 6.—“American Films and Bromide Paper,” by MR. H. S. BELLSMITH, of the Eastman Dry Plate and Film Co.  
 Dec. 10.—“The Negative and its development,” by MR. E. W. COWAN.  
 Dec. 12.—“The Waterways of Holland,” by MR. G. E. THOMPSON.

1889.

- Feb. 14.—Exhibition of Negatives, Prints, and Lantern Slides, by the MEMBERS.  
 Mar. 13.—“A Tour to the Bernese Oberland of Switzerland,” by MR. G. F. WYNNE.  
 Mar. 19.—“Printing and Dodging Negatives,” by MR. F. EVANS.



# PHOTOGRAPHIC SECTION.

BALANCE SHEET TO 31st MARCH, 1889.

## RECEIPTS.

|                                                                      | £  | s. | d. | £   | s. | d. |
|----------------------------------------------------------------------|----|----|----|-----|----|----|
| Subscriptions received from Members ..                               | 11 | 12 | 6  |     |    |    |
| " for fitting and furnishing Dark Room ..                            | 8  | 4  | 0  |     |    |    |
| " to Library ..                                                      | 0  | 5  | 0  |     |    |    |
| Sale of Tickets for Lecture on Picturesque Italy ..                  | 0  | 18 | 0  |     |    |    |
| " Lecture on the Waterways of Holland ..                             | 5  | 13 | 6  |     |    |    |
| " Lecture on the Bernese Oberland of Switzerland ..                  | 0  | 10 | 6  |     |    |    |
| Subscriptions to Prize Fund, 1888 ..                                 | 4  | 18 | 6  |     |    |    |
| Fête Committee, Eaton Hall—Expenses, 1888 ..                         | 0  | 5  | 0  |     |    |    |
| Messrs. FAWCUS & COWAN, one-half cost of Printing Exposure Tables .. | 0  | 11 | 3  |     |    |    |
|                                                                      |    |    |    | 32  | 18 | 3  |
| Balance due to Hon. Secretary ..                                     |    |    |    | 0   | 14 | 0  |
|                                                                      |    |    |    | £33 | 12 | 3  |

## PAYMENTS.

|                                                                                    | £  | s. | d. | £   | s. | d. |
|------------------------------------------------------------------------------------|----|----|----|-----|----|----|
| Cost of fitting and furnishing Dark Room ..                                        | 10 | 10 | 0  |     |    |    |
| Apparatus, viz., Dishes, Chemicals, &c... ..                                       | 4  | 9  | 10 |     |    |    |
| Books, Papers, &c., for Library ..                                                 | 3  | 19 | 8  |     |    |    |
| Printing and Stationery ..                                                         | 2  | 17 | 6  |     |    |    |
| " Notices, Lecture on Switzerland ..                                               | 0  | 4  | 6  |     |    |    |
| MR. G. E. THOMPSON'S Expenses ..                                                   | 0  | 2  | 8  |     |    |    |
| " Waterways of Holland ..                                                          | 1  | 9  | 0  |     |    |    |
| " Museum Management Committee, half of proceeds Lecture on Waterways of Holland .. | 2  | 1  | 9  |     |    |    |
| Expenses to Eaton Hall ..                                                          | 0  | 5  | 0  |     |    |    |
| Gratuities to Attendants, Christmas, 1887 and 1888.. ..                            | 0  | 10 | 0  |     |    |    |
| Prizes, 1888 ..                                                                    | 3  | 19 | 6  |     |    |    |
| Carriage, Postages, and Sundry Expenses ..                                         | 3  | 2  | 10 |     |    |    |
|                                                                                    |    |    |    | 33  | 12 | 3  |
|                                                                                    |    |    |    | £33 | 12 | 3  |

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers:—

**1889.**

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

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In addition to the above, the Committee have decided that, in order to encourage scientific research, they will make grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

The Collections, Essays, or Notes of Observations may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors should obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries of the Chester Society of Natural Science and Literature; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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The Prizes will be awarded at the Annual Conversazione.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

- 
- Academia Nacional de Ciencias De La Republica,  
 Argentina, Cordoba.  
 Barrow Naturalists' Field Club.  
 Brighton and Sussex Natural History Society.  
 Bristol Naturalists' Society.  
 British Museum (Natural History), Cromwell Road,  
 London, S.W.  
 Burnley Literary and Scientific Club.  
 Cardiff Naturalists' Society.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society  
 and Field Club.  
 Epping Forest and County of Essex Naturalists' Field Club.  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 La Société d'Histoire Naturelle de St. Wladimir á Kiew,  
 Russie.  
 Leeds Naturalists' Club  
 Liverpool Geological Society.  
 Liverpool Geological Association.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club.  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Microscopical Society.  
 Manchester Scientific Students' Association.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæo-  
 logical Society.  
 Nottingham Naturalists' Society.  
 Postal Microscopical Society.  
 Quekett Microscopical Society.  
 Rochdale Field Naturalists' Society.  
 Smithsonian Institution, Washington, D.C.  
 United States Geological Survey.  
 Vienna Natural History Museum.  
 Wigan Literary and Scientific Society.

## HONORARY MEMBERS.


*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


- Archer, Frank, Esq., B.A. . . . . 14 Cook Street, Liverpool  
 Brady, H. Bowman, Esq., F.R.S., F.L.S.,  
 F.G.S. . . . . Hillfield, Gateshead  
 Carruthers, W., Esq., F.R.S., F.G.S. . . The British Museum, South Ken-  
 sington, London, S.W.  
 \*Dawkins, W. Boyd, Esq., M.A., F.R.S.,  
 F.G.S., F.S.A. . . . . Woodhurst, Wilmslow rd., Fallow-  
 field, Manchester.  
 De Tabley, The Right Hon. Lord . . . . Tabley House, Knutsford  
 \*Hicks, H., Esq., M.D., F.R.S., F.G.S. . . Hendon Grove, Hendon, London,  
 N.W.  
 \*Higgins, Rev. H. H., M.A. . . . . 29 Falkner Square, Liverpool  
 Hooker, Sir J. D., F.R.S. . . . . Royal Gardens, Kew, London, W.  
 \*Hughes, Prof. T. McKenny, M.A.,  
 F.R.S., F.S.A., F.G.S., &c. . . . Trinity College, Cambridge  
 Hunt, T. Sterry, M.A., LL.D., F.R.S. . . Montreal, Canada  
 Huxley, Prof. T. H., LL.D. F.R.S.,  
 Ph.D., F.L.S., F.G.S. . . . . 4 Marlborough Place, London, N.W.  
 \*Judd, Prof. J. W., F.R.S. . . . . Science Schools, South Kensington,  
 London, S.W.  
 Kingsley, Mrs. . . . . Tuchbrook Mallory, Leamington  
 \*Lubbock, Sir John, Bart., M.P., F.R.S.,  
 &c. . . . . High Elms, Beckenham, Kent.  
 \*Mackintosh, D., Esq., F.G.S. . . . . 32 Glover Street, Borough road,  
 Birkenhead  
 \*Morton, G. H., Esq., F.G.S. . . . . 209 Edge lane, Liverpool, E.  
 Norman, Rev. A. M., M.A., D.C.L.,  
 F.L.S. . . . . Fence House, Durham  
 \*Rac, E., Esq., F.S.A. . . . . Court Lodge, Birkenhead  
 Renard, The Abbé . . . . . Curator of the Royal Museum of  
 Natural History, Brussels  
 \*Rudler, F. W., Esq., F.G.S. . . . . Museum of Practical Geology,  
 Jermyn street, London, S.W.  
 Spooner, C. E., Esq., C.E., F.G.S. . . . Bron y Garth, Portmadoc  
 Tyndall, Prof. J., D.C.L., LL.D., F.R.S. . . Hind Head House, Haslemere  
 Villanova-y-Piera . . . . . Professor of Geology in the Uni-  
 versity of Madrid  
 \*Vize, Rev. J. E., M.A. . . . . Rector of Forden, Welshpool

## CORRESPONDING MEMBERS.

- Askew, Mr. Jas. H. . . . . Hilbre Island  
 Griffith, Mr. J. E., F.L.S., F.R.A.S. . . Vronheulog, Upper Bangor, N.W.  
 Joachim, Mrs. Geo. . . . . Dunedin, Otago, New Zealand  
 Leather, Mr. F. S. . . . . New Zealand  
 Nixon, Mr. . . . . National School, Manley, Cheshire  
 \*Reade, Mr. Oswald A. . . . . Royal Naval Hospital, Gt. Yarmouth  
 \*Rowston, Mr. R. . . . . Kingsley Alton, Hants  
 \*Ruddy, Mr. Thos. . . . . Palé, Corwen  
 \*Thomas, Dr H. . . . . The Hydropathic Establishment, Llandudno  
 Tomlin, Mr. J. R. Le B., B.A. . . . . 59 Liverpool Road  
 Walker, Mr. Fred. . . . . Heywood, Tenby  
 Wynne, Mrs. Lloyd . . . . . Coed Coch, Abergelle  
 \*Wilkins, Mr. T. S. . . . . Uttoxeter

## NOTICE.

 THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN MILLS, Chemist, Eastgate Row.

 To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.

## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

|                             |       |                                            |
|-----------------------------|-------|--------------------------------------------|
| Acheson, Rev. J. H., M.A.   | ....  | Abbey street                               |
| Acheson, Mr. Maurice        | ..... | "                                          |
| Acheson, Mr. Guy H.         | ..... | "                                          |
| *Acton, Mr. T. Bennion      | ..... | Grove road, Wrexham                        |
| Adams, Mr. Beresford        | ..... | 8 Cheyney road                             |
| Adams, Mr. Geo. F.          | ..... | Brighton villa, Saughall road              |
| Appleton, Mr. John          | ..... | 9 Lorne street                             |
| *Arkle, Mr. J.              | ..... | Diocesan Schools, George street            |
| Audsley, Mr. Geo. C.        | ..... | 3 Eastern pathway, Queen's park            |
| Avery, Mr. John             | ....  | 4 Bouverie street                          |
| Ayrton, Mrs.                | ..... | Abbot's Rock, 33 Liverpool road            |
| Ayrton, Mr. Alfred G.       | ..... | " " "                                      |
| Bailey, Mr. H. Grant        | ..... | Crypt Chambers                             |
| *Baillie, Mr. E. J., F.L.S. | ..... | Woodbine, Upton park                       |
| Baillie, Mrs. E. J.         | ..... | " "                                        |
| Baker, Mrs.                 | ..... | 24 Frodsham street                         |
| Baker, Mr. J. R.            | ..... | 48 Bridge street                           |
| Baker, Miss                 | ..... | "                                          |
| Ballard, Mr. E. G.          | ..... | 1 Eversley park                            |
| Ballard, Mrs.               | ..... | "                                          |
| Barber, Mr. G. E.           | ..... | S. Bridget's Rectory                       |
| Barker, Mr. A.              | ..... | 6 Abbey street                             |
| Barlow, Miss M.             | ..... | Coed Pella, Colwyn Bay                     |
| Barlow, Mr. H.              | ..... | All Saints' School, Hoole                  |
| Barnacle, Rev. H. G.        | ..... | The Vicarage, Holmes Chapel, Crewe, R.S.O. |
| Barnes, Rev. F., B.A.       | ..... | Hope villa, Raymond street                 |
| Barnett, Mr. Thos. B.       | ..... | Old Bank                                   |
| Barrett, Rev. W. F., M.A.   | ..... | Mostyn House, Parkgate                     |
| Barrett, Mrs. W. F.         | ..... | " "                                        |

|                                                  |                                                         |
|--------------------------------------------------|---------------------------------------------------------|
| Barrow, Miss .....                               | The Infirmary                                           |
| Bassett, Miss C. E. ....                         | 68 Northgate street                                     |
| Baxter, Mr. Geo. ....                            | 47 Queen street                                         |
| *Bedford, Rev. J. L., M.A., F.L.S. ....          | 10 Abbey square                                         |
| Bedford, Mrs. ....                               | " "                                                     |
| Bernard, Mr. John ....                           | 17 City walls                                           |
| Beswick, Mrs. Harry ....                         | 17 Victoria pathway, Queen's park                       |
| Birch, Mr. H. J. ....                            | Corville, Liverpool road                                |
| Birch, Miss ....                                 | 18 Upper Northgate street                               |
| Blayney, Mr. A. ....                             | 2 City walls, W.                                        |
| Blayney, Mrs. A. ....                            | " "                                                     |
| Blogg, Rev. H. B., M.A. ....                     | The Vicarage, Frodsham                                  |
| Blomfield, Capt., R.N. ....                      | { @ Messrs. Woodhead & Co., 44 Charing<br>Cross, London |
| Blower, Mr. T. B. ....                           | 6 The Groves                                            |
| Blower, Mr. W. ....                              | 4 Williams' terrace, Hoole                              |
| Bolland, Mr. Frank ....                          | 23 Hough green                                          |
| Bonnalie, Mr. G., L.D.S., R.C.S.E. ....          | 4 Abbey square                                          |
| Bonnalie, Mr. Fredk. ....                        | " "                                                     |
| Borwick, Rev. R. P. ....                         | Frodsham, near Chester                                  |
| Bowers, Mr. H. R., J.P. ....                     | Abbot's lodge, Liverpool road                           |
| Bowers, Mrs. H. R. ....                          | " "                                                     |
| Bowles, Mr. T. S. ....                           | 21 Raymond street                                       |
| Box, Mr. Henry ....                              | 46 Frodsham street                                      |
| Boyson, Miss Annie H. ....                       | { Grove House, Larkhall Rise, Clapham,<br>London, S.W.  |
| Brassey, Miss ....                               | Rose Hill, Bowdon, Cheshire                             |
| Brayshaw, Mr. E. C. ....                         | South view, Eaton road                                  |
| Brewer, Miss E. ....                             | 15, Paradise row                                        |
| *Broadbent, Mrs. ....                            | Bache cottage                                           |
| Brown, Miss ....                                 | 144 Boughton                                            |
| Brown, Mr. C. ....                               | The Folly, Flookersbrook                                |
| Brown, Miss L. E. ....                           | " "                                                     |
| Brown, Mr. W. ....                               | 18 Curzon park                                          |
| *Brown, Mr. F. F., M.A. ....                     | " "                                                     |
| *Buckler, Rev. J. F., M.A. ....                  | Bidston Rectory, near Birkenhead                        |
| Buckley, Mr. Wm. Ireland, F.R.G.S. ....          | The Academy, Winsford, Cheshire                         |
| Bullin, Mr. F., J.P., L.D.S., R.C.S. ....        | 22 Nicholas street                                      |
| Bullin, Mrs. ....                                | " "                                                     |
| Bullin, Miss E. ....                             | " "                                                     |
| Butt, Miss. ....                                 | 8 Curzon park                                           |
| Butte, Miss. ....                                | 7 Short place, Garden lane                              |
| Campbell, Rev. E. A. Pitcairn, M.A., J.P. ....   | Vicar's Cross                                           |
| Carrington, Mr. A. ....                          | 12 White friars                                         |
| Chapman, Mr. F. W. ....                          | 42, Tarvin road                                         |
| Chester, The Right Rev. The Lord Bishop of. .... | The Palace, Dee side                                    |
| Churchill, Mr. F. W. ....                        | Greenfield House, Hoole                                 |
| Clayton, Mr. C. ....                             | 14 Chichester street                                    |
| Clemence, Mr. S. ....                            | 2 Chichester street                                     |
| Clough, Miss ....                                | 18 Queen street                                         |
| Clough, Mr. G. F. ....                           | 15 Pepper street                                        |
| Coe, Mr. D. ....                                 | 26 Lightfoot street, Bishopsfield                       |
| Coe, Mr. Henry J. ....                           | 4 Bold terrace                                          |
| Collinge, Mr. James. ....                        | Kinnerton Lodge, Chester                                |
| Comber, Mrs. E. ....                             | Holly Bank, Christleton                                 |
| Connah, Mr. Jas. ....                            | The Laboratory, Somerset House, London, W.C.            |



- \*Connor, Mr. Rochfort, F.L.S. ..9 Haddington terrace, Kingstown. Dublin  
 Coppack, Mr. Chas. ....Derby Cottage, 107 Garden lane  
 Cordery, Mr. J.....7 Liverpool road  
 Cordery, Miss C. ....79 Boughton  
 \*Cowan, Mr. E. W., A.M.I.C.E..18 Lorne street  
 \*Cowap, Mr. C. R. ....22a Cambrian view  
 Cummings, Miss .....King's buildings

- Darby, Very Rev. J. L., D.D. ..The Deanery  
 Davey, Mr.....: ....3 Brighton terrace  
 Davey, Mrs. ...." " "  
 Davies-Colley, Dr. T., J.P.....Newton Cottage, near Chester  
 Davies-Colley, Mrs. ...." " "  
 Davies-Colley, Miss E. C. ...." " "  
 Davies, Miss Henrietta .....69 Boughton  
 Davies, Mr. E. Henry .....19 Francis street  
 Davies, Mr. Joseph .....  
 Davies, Mr. John .. ....Parr's Banking Co., Eastgate street  
 Davies, Mr. J. P. ....75 Crane street  
 Davies, Mr. James .....20 St. Anne's place  
 Day, Mr. C. J. ....Rowton, Chester  
 Denson, Mr. W. ....21 Upper Northgate street  
 Denson, Mrs. W. ...." " "  
 Denson, Miss Adelaide .....  
 Denson, Mr. J. Lyon .....  
 Denson, Mr. T. F. ....8 Church street  
 Denson, Mrs. T. F. ....  
 Dickson, Mr. Geo. A., J.P. ....Springfield, Flookersbrook  
 Dickson, Mrs. Geo. A. ....  
 Dickson, Miss Lavinia .....  
 Dickson, Mr. Jas. ....Brookfield House, Chester  
 Dickson, Mr. W. A.....Newton villa, Chester  
 Dickson, Mr. S. J. R.....Mayfield House, Hoole  
 \*Dobie, Dr. W. M. ....23 Upper Northgate street  
 Dobie, Miss .....  
 \*Dobie, Mr. W. H., M.B. ....22 Upper Northgate street  
 Dod, Rev. C. Wolley, M.A., J.P..Edge Hall, Malpas, Chester  
 Dod, Miss Wolley .....  
 Dodd, Mr. W. ....143 St. Anne street  
 Dodds, Mr. John .....Lorne street (North)  
 Dugdale, Mr. John .....Spital field, Boughton  
 Dutton, Mr. J. Rowe .....6 Stanley place  
 Dutton, Mr. George .....Curzon House  
 Dutton, Mrs. ....  
 Dutton, Mrs. G. W.....15 Curzon park  
 Dutton, Mr. H. B. ....Freshfield, 27 Curzon park  
 \*Dutton, Mr. F. V. ....Newton Nurseries  
 Dutton, Mr. Chas., J.P. ....Queen's park

- \*Edwards, Mr. J. W. P. ....133 Boughton  
 Edwards, Mrs. J. W. P. ....  
 Edwards, Mr. J. E., J.P. ....Abbot's Mount, Liverpool road  
 Edwards, Mr. J. ....74 Foregate street  
 Enock, Mr. C. R.....Parkgate road  
 Enock, Mrs. C. R. ....  
 Evans-Lloyd, Colonel, J.P.....Stanley House

- \*Evans, Mr. F. .... The Eastgate  
 Evans, Miss ..... Eversley House, Eversley park  
 Evans, Rev. T. J., M.A. .... Hargrave Rectory, near Chester  
 Ewen, Mr. I. E. .... 26 Hough green  
 Ewen, Miss ..... " "  
 Ewing, Mr. C. A. .... 3 Brookside villas, Flookersbrook  
 Ewing, Miss ..... Golden Grove, Hoole road  
 Ewing, Miss L. .... " "
- Farmer, Mr. Richard ..... Brierley, Brook lane  
 Farmer, Mrs. .... " "  
 Farrimond, Mr. F. T. .... Sunnyside, Boughton  
 \*Fawcus, Mr. W. J. P., C.E. .... 37 Cambrian View  
 Feilden, Miss ..... Mollington Hall, Chester  
 Feltoe, Rev. C. L., M.A. .... The King's School  
 Ffoulkes, His Honour Judge Wynne, M.A. .... Upper Northgate street  
 Ffoulkes, Mr. Thomas B., Junr. .... 65 Berner's street, Ipswich  
 Finchett, Mr. W. H. .... The Savings' Bank, Grosvenor street  
 Firth, Mr. N. C. .... 125 Foregate street  
 Fish, Mrs. .... Arnold House, Parkgate Road  
 \*Fish, Rev. A. H., B.A., B.Sc. (Lond.) .... " "  
 Fleet, Mr. H. .... 76 Lower Bridge street  
 \*Fletcher, Mr. P. H. .... Woodbrac, Curzon park  
 Fletcher, Miss ..... " "  
 Fletcher, Miss Eva B. .... 18 Upper Northgate street  
 Fluitt, Miss ..... Grey friars  
 Fluitt, Miss F. C. .... " "  
 Francis, Mr. F. E. .... 8 Alexandra terrace, Hoole road  
 Frater, Mr. G. .... 3 Lorne street  
 Frater, Mr. Jas. .... " "  
 Frater, Miss ..... 12 Stanley place  
 Freeman, Mr. C. E. .... 16 Lorne street  
 Frith, Mr. Philip J. .... 21 Tarvin road  
 Frith, Mr. Jas. N. .... " "  
 Fromont, Mr. W. H. .... 15 Tarvin road  
 Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
 Frost, Lady ..... " "  
 Frost, Mr. J. M. .... Dee Lodge  
 Frost, Mr. T. Gibbons ..... 2 Richmond place  
 Frost, Mrs. T. Gibbons ..... " "
- Gane, Miss ..... Seafeld House, Cambrian view  
 Gardner, Mrs. W. A. .... Redland House, Hough green  
 Gardner, Miss Constance ..... " " "  
 Gardner, Miss Ethel ..... " " "  
 Gardner, Miss Mabel ..... " " "  
 Gardner, Mr. Stanley ..... " " "  
 Gardner, Mr. E. .... 3 Lumley road, Liverpool road  
 Garnett, Mr. W. .... Bldge street row  
 Garside, Mr. F. .... Hamilton street, Hoole  
 Gibson, Mr. J. M. .... Buckley, *via* Chester  
 Gibson, Miss Ada ..... Crane street  
 Gilbert, Mr. Leonard, J.P. .... Egerton villa, Liverpool road  
 \*Giles, Rev. W. T., M.A. F.R.G.S. .... The Asylum, Chester  
 Glascodeyne, Miss ..... The Queen's School, City walls  
 Golder, Mr. S. .... 31 Nicholas street  
 Gorst, Miss ..... Spring villa, Liverpool road

|                                                |                                     |
|------------------------------------------------|-------------------------------------|
| *Granger, Mr. F. M., M.R.C.S., L.R.C.P.L. .... | 18 Nicholas street                  |
| Graham, Rev. H. ....                           | S. Mary's Rectory, Chester          |
| Green, Mr. T. E. ....                          | 26 St. Martin's-in-the-fields       |
| Gregg, Mr. W. ....                             | 2 Watergate square                  |
| Griffith, Mr. G. R. ....                       | 30 Hough green                      |
| Griffith, Mrs. G. R. ....                      | " "                                 |
| Griffith, Miss ....                            | " "                                 |
| Griffith, Mr. N. de B. ....                    | " "                                 |
| Griffiths, Mr. Jno. ....                       | Upton park                          |
| Griffiths, Mrs. John ....                      | " "                                 |
| Griffiths, Mr. T. W. ....                      | 5 Hough green                       |
| Griffiths, Miss. ....                          | 42 Watergate street                 |
| Griffiths, Mr. John ....                       | " "                                 |
| *Griffiths, Rev. T. Turner, M. A. ....         | Derby villa, Clifton Wood, Bristol  |
| *Grocott, Mr. E. A. ....                       | Frodsham street                     |
| Gunton, Miss. ....                             | Rimmersfield, Liverpool road        |
| Haining, Dr. W. ....                           | 81 Foregate street                  |
| *Hall, Mr. J. H. A. ....                       | Old Bank House                      |
| Hall, Mrs. ....                                | " "                                 |
| Hamel, Miss ....                               | 9 Abbey street                      |
| Hamilton, Mr. A., M.R.C.S. ....                | 16 White friars                     |
| Hankey, Mr. Lee ....                           | Rock Mount, Liverpool road          |
| Hankey Miss C. M. ....                         | " "                                 |
| Hanmer, Mr. F. ....                            | Bridge street                       |
| Hanningan, Mr. Jno. ....                       | Sunny Bank, Queen's park            |
| Hardy, Mr. J. E. ....                          | The Blue Coat School, The Northgate |
| Hardy, Mrs. ....                               | " "                                 |
| Harrison, Miss ....                            | 20 Lorne street                     |
| Harrison, Mrs. Jno. ....                       | Ashton House, New Crane street      |
| Harrison, Mr. N. ....                          | Highfield, Curzon park              |
| Harrison, Mrs. N. ....                         | " "                                 |
| Haswell, Mr. Geo. W. ....                      | 7 Bouverie street                   |
| Henderson, Mr. J. E. ....                      | 19 Pathway, Queen's park            |
| Henderson, Mr. Wm. ....                        | 11 Union walk                       |
| Henry, Mr. R. G. ....                          | 65 Bouverie street                  |
| Henshaw, Mr. T. ....                           | The Hollies, Liverpool road         |
| Henshaw, Mr. T. A., ....                       | " "                                 |
| Henshaw, Miss Edith E. ....                    | " "                                 |
| Henshaw, Miss Florence M. ....                 | " "                                 |
| Heppel, Miss ....                              | 7 Hough green                       |
| Herne, Colonel ....                            | Delamere House, Liverpool road      |
| Hewitt, Mr. David L. ....                      | Abbey House, Northgate street       |
| Hickman, Mr. F. F. ....                        | 8 Northgate street                  |
| Hickman, Miss ....                             | 17 The Groves                       |
| Higgins, Miss Eva ....                         | The Manor, Overleigh                |
| Higgins, Miss Millie. ....                     | " "                                 |
| Higgins, Mr. W. H. ....                        | St. Martin's-in-the-fields          |
| Hignett, Mrs. ....                             | 14 Hough green                      |
| Hignett, Mr. A. H. ....                        | " "                                 |
| Hignett, Mrs. T. H. ....                       | 18 Hough green                      |
| Hillyard, Rev. Canon, M.A. ....                | Okeford, Bampton, N. Devon          |
| Hincks, Mr. J. W. ....                         | 61 Northgate street                 |
| Hobday, Mr. J. ....                            | Alexandra villa, Liverpool road     |
| Hobday, Mr. E. ....                            | " "                                 |
| Hobday, Mr. Jas. ....                          | 22 The Groves                       |
| *Hodges, Mr. W. ....                           | 31 Hough Green                      |
| Hodkinson, Mr. E. ....                         | 35 Pepper street                    |

|                                   |                                          |
|-----------------------------------|------------------------------------------|
| *Holland, Mr. R., F.L.S.....      | Mill Bank House, Frodsham                |
| Holme, Rev. A. P., M.A. ....      | The Rectory, Tattenhall                  |
| Holmes, Mr. J. G. ....            | Belmont, Curzon park                     |
| Hoole, Rev. W. Spooner, M.A. .    | Rectory, Thornton-le-Moors, near Chester |
| Hopkins, Mrs. ....                | 32 Queen street                          |
| Horabin, Mr. T. ....              | 16 Newgate street                        |
| Horton, Mr. H. R. ....            | 74 Brook street                          |
| Hostage, Mr. Geo. B. ....         | 28 Eaton road                            |
| Hostage, Mrs. Geo. B. ....        | " "                                      |
| Hostage, Miss ....                | 22 Eaton road                            |
| Howson, Miss ....                 | Egerton House, Upper Northgate street    |
| Howson, Miss M. ....              | " "                                      |
| Howson, Rev. J. F., B.A. ....     | The Rectory, "New Brighton"              |
| Hudson, Mrs. R. S. ....           | Bache Hall, Chester                      |
| Hughes, Mr. A. H. ....            | 23 Orchard street                        |
| Hughes, Mrs. McKenuy ....         | 4 Cintra terrace, Cambridge              |
| Hughes, Mr. T., F.S.A. ....       | Grove terrace, The Groves                |
| Hughes, Mr. Thos. Cann, B.A. .    | Town Hall, Manchester                    |
| *Hughes, His Honour Judge, Q.C. . | Uffington House, Dee hills               |
| Hughes, Mrs. ....                 | " "                                      |
| Hughes, Mr. John ....             | City road                                |
| Huke, Mr. J. W. ....              | 89 Foregate street                       |
| Humberston, Miss ....             | Newton Hall, Chester                     |
| Humphreys, Mr. E. Noel ....       | 8 Derby place, Hoole                     |
| Hurst, Mr. Jas. ....              | South Bank, Frodsham                     |
| Hurst, Mrs. Jas. ....             | " "                                      |

|                                  |                                         |
|----------------------------------|-----------------------------------------|
| Jackson, Miss ....               | 21 Hough green                          |
| Jacob, Rev. Joseph, M.A. ....    | Whitewell Rectory, Whitchurch (Salop)   |
| James, The Very Rev. H.A. M.A. . | The Deanery, St. Asaph                  |
| Jayne, Mr Ernest ....            | The Palace, Dee side                    |
| *Jebb, Mr. G. R., C.E. ....      | Fairyfield, Great Barr, Birmingham      |
| *Jeffs, Mr. O. W., F.G.S. ....   | 12 Queen's road, Rock Ferry             |
| Jefferson, Miss ....             | 38 Bridge street                        |
| Jephcott, Mr. Charles ....       | 13 Lorne street (North)                 |
| Johnson, Major ....              | 34 King street                          |
| Johnson, Mrs. ....               | 11 Bertram road, Sefton park, Liverpool |
| Johnson, Mr. W. ....             | 29 George street                        |
| Johnson, Mr. ....                | St. Paul's School, Boughton             |
| *Johnson, Mr. M., L.D.S.I. ....  | 9 York villas, Lorne street             |
| Jones, Miss G. M. ....           | 10 Crane street                         |
| Jones, Miss Maggie ....          | 1 King's buildings                      |
| Jones, Mr. H. Watson ....        | 11 Grosvenor park road                  |
| Jones, Miss S. H. ....           | Kingston House, Liverpool road          |
| Jones, Mr. A. W. ....            | 23 Sellar street                        |
| Jones, Mrs. A. W. ....           | " "                                     |
| Jones, Miss ....                 | The Northgate                           |
| Jones, Mr. W. C., Junior ....    | 26 Duke street                          |
| Jones, Mr. F. ....               | 59 Bridge street row                    |

|                          |                               |
|--------------------------|-------------------------------|
| Keartland, Miss ....     | 2 Egerton terrace, Hoole road |
| Keeling, Miss Alice .... | Minworth, near Birmingham     |
| Kelly, Miss Nellie ....  | Trinity street                |
| Kemp, Mr. Geo. ....      | 59 Bridge street              |
| Kenyon, Dr. ....         | Flookersbrook                 |
| King, Dr. ....           | 18 Newgate street             |

|                                                      |                                              |
|------------------------------------------------------|----------------------------------------------|
| King, Miss Edith F. ....                             | 18 Newgate street                            |
| Kingsley, Miss .....                                 | Tachbrook Mallory, Leamington                |
| Kingsley, Mr. G. A. ....                             | " "                                          |
| Kinsey, Mr. T. E. Morris .....                       | Westminster buildings "                      |
| Kirkpatrick, Mrs. ....                               | Ash Grove                                    |
| Knowles, Mr. E. R. ....                              | Grosvenor street                             |
|                                                      |                                              |
| Lacy, Mrs. ....                                      | Moor Holme, Neston                           |
| Lamont, Mr. A. ....                                  | 3 City Walls (West)                          |
| Lamont, Mr. A., Junr. ....                           | " "                                          |
| Latham, Mr. J. S. ....                               | Green Bank, Liverpool road                   |
| *Lawrence, Dr. A. ....                               | The Asylum, Chester                          |
| Lees, Mr. W., M.R.C.S. ....                          | The Infirmary                                |
| Lewis, Rev. J. S., M.A. ....                         | Guildford Vicarage, Welshpool                |
| Lightfoot, Mrs. W. M. ....                           | York villas, Liverpool road                  |
| Linnell, Mr. Geo. F. ....                            | 10 Grosvenor place                           |
| Lipsham, Mr. F. ....                                 | 17 Pepper street                             |
| Lloyd, His Honour Judge Horatio. .                   | 3 Sandown terrace                            |
| Lloyd, Mrs. Horatio. ....                            | " "                                          |
| Lloyd, Mr. E. Honoratus .....                        | " "                                          |
| Lloyd, Mrs. E. ....                                  | 24 Eaton road                                |
| Lloyd, Miss M. E. ....                               | 20 Lorne street                              |
| Lockwood, Mr. T. M., F.R.I.B.A. .                    | 80 Foregate street                           |
| Lowe, Mr. G. B. ....                                 | 25 Hough green                               |
| Lowe, Miss C. H. ....                                | " "                                          |
| *Lowe, Mr. W. F., A.R.S.M., }<br>F.I.C., F.C.S. .... | 21 Granville road, Cambrian view             |
| Lowe, Mrs. W. F. ....                                | " " "                                        |
| Lowe, Mr. Jas. F., B.A. ....                         | Dee Banks                                    |
| *Lucas, Mr. A. W., F.R.G.S. ....                     | 7 Victoria pathway, Queen's park             |
| Lund, Mrs. ....                                      | Thorpe villa, Liverpool road                 |
| Luxmoore, Mr. E. B., J.P., F.G.S. .                  | Bryn-Asaph, St. Asaph                        |
| Lynch, Rev. F. ....                                  | Grosvenor Park road                          |
|                                                      |                                              |
| Macdonald, Mr. G. ....                               | 3 Abbey square                               |
| Manley, Mr. H. ....                                  | Aston, Nantwich                              |
| *Manning, Mr. J. B. ....                             | The Governor's House, H.M. Prison, Wakefield |
| Manning, Miss Edith .....                            | 18 Upper Northgate street                    |
| Mann, Dr. A., M.B. ....                              | The Infirmary                                |
| Marsden, Miss .....                                  | 6 Grosvenor park road                        |
| Marsden, Miss E. ....                                | " "                                          |
| Marshall, Mr. W. H. ....                             | 18 Lorne street "                            |
| Martin, Mr. E. ....                                  | Cheyney road                                 |
| Mason, Mr. F. B. ....                                | 3 Lorne street (North)                       |
| Massie, Admiral .....                                | 3 Stanley place                              |
| Massy, Miss .....                                    | Mansfield lodge, Hough green                 |
| Mawdsley, Miss M. M. ....                            | 8 Eaton road                                 |
| Mawdsley, Miss J. G. ....                            | " "                                          |
| Mawdsley, Mr. W. H. ....                             | " "                                          |
| McEwen, Mrs. ....                                    | 26 Nicholas street                           |
| *McKerchar, Mr. J. ....                              | 35 Giesbach rd , Upper Holloway, London, N.  |
| *Mills, Mr. John .....                               | 4 Eastgate row                               |
| Mills, Mrs. John .....                               | " "                                          |
| *Miln, Mr. G. P. ....                                | 27 Chichester street                         |
| Miln, Mrs. ....                                      | " "                                          |
| Minshull, Mr. E. ....                                | The Northgate                                |
| Minshull, Miss .....                                 | " "                                          |
| Minshull, Miss E. Gertrude. ....                     | " "                                          |

Montgomery, Rev. J. K. .... Abbot's villas, Liverpool road  
 Moreton, Mr. J. E., F.R.C.S. .. Tarvin  
 Moreton, Mrs. ....  
 Morris, The Rev. Canon, D.D. .. Eaton, Chester  
 Morris, Mr. Chas. .... 21 Black Diamond street  
 Morton, Mr. G. .... Dodleston, near Chester  
 Moses, Mr. H. C. .... 6 Northgate street  
 Mulhern, Mr. R. .... 45 Frodsham street

\*Newstead, Mr. R. .... The Grosvenor Museum  
 Nicholson, Mr. J. M. .... Little Sutton, Chester  
 Nichols, Mr. G. F. .... 12 Chichester street

\*Okell, Mr. W. H. .... 1 Northgate street  
 \*Okell, Mr. E. W. .... 22 Northgate street  
 Okell, Mr. P. H. .... The Cross  
 Okell, Miss. .... 6 Curzon park  
 Okell, Miss M. H. .... " "  
 Okell, Miss J. .... " "  
 Oldfield, Mrs. .... 68 Northgate street  
 Oldfield, Miss .... Bryn Clwyd, St. Asaph  
 Oldmeadow, Mr. Geo. E. .... 22 Lorne street  
 Orton, Mr. R. O., J.P. .... Tattenhall  
 Owen, Miss Bessie .... 18 Queen street  
 Owen, Miss .... 10 Stanley place  
 Owen, Mr. John .... Little Sutton

Palin, Mr. G. F. .... Parr's Banking Co., Eastgate street  
 Parkes, Mr. A. .... Bridge street row  
 Parkes, Mrs. A. .... " "  
 \*Parnell, Mr. E. W., F.C.S. .... Dee hills  
 Parry, Mrs. C. .... 24 Frodsham street  
 Parry, Mr. Gilbert .... Farndon Hall, Chester  
 \*Parry, Mr. T. S., M.B. .... 10 Upper Northgate street  
 Payne, Miss .... 4 Abbey green  
 Payne, Miss A. .... " "  
 Phillipson, Mr. J. .... 12 Liverpool road  
 Phillipson, Mr. H. G. .... " "  
 Phillipson, Mr. J. Tindal, B.A. .... " "  
 Pierson, Mr. F. A. .... 2 Grosvenor place  
 Pike, Mr. Horace G. .... Bridge street  
 Pinches, Mr. Richard .... 9 Black friars  
 Podmore, Miss .... 3 Eastern pathway, Queen's park  
 Porter, Mrs. .... Crowthorne, Childer Thornton  
 Potts, Mr. C. W. .... Heron bridge  
 Potts, Miss A. M. .... " "  
 Potts, Miss C. L. .... " "  
 Potts, Capt. H. J. .... Glanrafon, Mold  
 Powell, Mr. E. .... Eastgate row  
 Powell, Mrs. .... Springfield, Neston  
 Powell, Mr. T. J. .... 14 Newgate street  
 Preston, Mr. F. M. .... Abbot's grange, Liverpool road  
 Price, Rev. Elis. .... 56 Watergate street  
 Price, Mr. Paul .... Bryntirion, Chichester street  
 \*Price, Mr. Walmsley .... 26 Watergate row  
 Price, Mrs. Walmsley .... " "

- Prichard, Mr. Geo. ....9 The Groves  
 Prichard, Miss ..... " "  
 Puget, Miss Louisa Du ..... Fernville, " Curzon park  
 Pye, Mr. Jas. .... Clovelly House, Eversley park  
 \*Pye, Mr. T. E. .... Commercial Gas Co., Stepney, London, E.
- \*Ramsden, Mr. W. .... *Cheshire Observer*, Eastgate row (North)  
 Ransome, Rev. Maurice, B.A. .. Malpas  
 Rayner, Miss. .... Ash grove, Wrexham road  
 Ray, Miss ..... 3 Eastern pathway, Queen's park  
 Reade, Mr. Albert William .... 11 Lorne street  
 Reade, Mr. Walter ..... " "  
 Reynolds, Mr. Geo. H. .... The Cottage, Eccleston  
 Reynolds, Mrs. .... " "  
 Rhodes, Mrs. .... York villas, Liverpool road  
 Richardson, Mr. Adam ..... Bridge street row  
 Richmond, Mr. G. B. .... *Courant* Office, Northgate street  
 Roberts, Mr. J. .... 15 Bridge place  
 Roberts, Miss ..... Bank Cottage, Neston  
 Roberts, Miss Annie ..... 14 Stanley place  
 Roberts, Miss M. .... 8 Nicholas street  
 Roberts, Dr. .... 8 Abbey square  
 Roberts, Mr. Hugh ..... Crypt Chambers  
 Roberts, Mr. R. Mostyn ..... 9 Bouverie street  
 Roberts, Miss Johnson ..... 7 Lumley road, Liverpool road  
 Rogers, Mr. James ..... The Cross  
 Rogers, Mr. Jno. .... Watergate House  
 Rogers, Mr. W. .... " "  
 Rogerson, Mr. G. H. .... 4 Nicholas street  
 Rowland, Mr. J. .... The Warren, Bodfari, Trefnant, Denbighshire  
 Royle, Mrs. T. V. .... Dingle Bank  
 Royle, Mr. T. R. P. .... Hough Green House  
 Royle, Mrs. T. R. P. .... " "  
 Rushton, Mr. F. Lever ..... Thornton Grange, Gresford
- Sandford, Mrs. .... Queen's School  
 Sant, Mr. T. .... Frodsham  
 Saunders, Mr G. M. .... 8 Lorne street  
 Schröder, Mr. W. G. .... Queen's Park Farm  
 Scotland, Colonel ..... Eccleston Hill, Chester  
 Scott, Mr. John ..... 19 Chichester street  
 Segar, Mr. F., L.D.S.E. .... 75 Bridge street row  
 Selwood, Mr. T. .... Eaton Gardens, Chester  
 Sharpe, Mr. F. W. .... Abbey square  
 Sharp, Mr. W. E., .... Hallwood, Ledsham
- \*Shepherd, Mr. T., F.R.M.S. .. Kingsley Lodge, Liverpool road  
 Shepherd, Miss ..... " " "  
 Shepherd, Miss Emma ..... " " "  
 Shepherd, Miss Annie ..... " " "  
 Shepherd, Mr. Wm. .... " " "  
 Shepherd, Mr. Jos. D. .... " " "  
 \*Shone, Mr. W., F.G.S. .... Upton park  
 Shone, Mrs. W ..... " "  
 Shrubsole, Mr. Alfred ..... Town Hall Square
- \*Siddall, Mr. J. D. .... 19 Eaton road  
 Siddall, Mrs. .... " "  
 Sleigh, Miss L. H. .... Manor House, Queen's park  
 Sleigh, Miss A. G. .... " "

|                                              |                                                                  |
|----------------------------------------------|------------------------------------------------------------------|
| Small, Mr. A. H.                             | 3, Deva terrace                                                  |
| Smith, Mr. T.                                | Blacon Point, Chester                                            |
| Smith, Mrs. S.                               | 16 Nicholas street                                               |
| Smith, Miss H.                               | Chichester street                                                |
| Smith, Mr. F.                                | Beechwood House, 10 Canal street                                 |
| Smith, Miss F.                               | " " "                                                            |
| Smith, Miss L.                               | " " "                                                            |
| Smith, Mr. John                              | Market Square                                                    |
| Smith, Mr. Harry                             | Denysfield, Vicar's Cross                                        |
| Smith, Mr. T. J.                             | Moor House, Flookersbrook                                        |
| Smith, Mrs. T. J.                            | " "                                                              |
| Smith, Mr. A. Ford, B.A.                     | White friars                                                     |
| Smith, Mr. D. R.                             | 20 Cleveland street, Birkenhead                                  |
| Smyth, Miss Lyle                             | Barrowmore Hall, near Chester                                    |
| Spencer, Mr. J. H.                           | 36 Bridge street                                                 |
| Spooner, Miss                                | Newton Cottage, near Chester                                     |
| Stevenson, Mr. A.                            | Grosvenor park road                                              |
| Stewart, Mrs.                                | 39 White friars                                                  |
| *Stolterfoth, Dr., M.A.                      | 60 Watergate street                                              |
| Stolterfoth, Mrs.                            | " "                                                              |
| Stolterfoth, Miss                            | " "                                                              |
| Storr, Mr. F.                                | 21 The Groves "                                                  |
| Storr, Miss                                  | " "                                                              |
| Storrar, Miss S.                             | Newgate street                                                   |
| *Strahan, Mr. Aubrey, M.A., F.G.S.           | { H.M. Geological Survey, Museum,<br>Jermyn street, London, S.W. |
| Summers, Mr. E.                              | 1 South view, Tarvin road                                        |
| Sumner, Mrs. A.                              | 4 Grosvenor place                                                |
| *Tate, Mr. A. Norman, F.I.C.                 | 9, Hackin's Hey, Liverpool                                       |
| Tatler, Mr. R. E.                            | Woodbine cottage, Louise street                                  |
| Tatler, Mr. A.                               | " "                                                              |
| Tatlock, Mr. J.                              | 21 Saint John street                                             |
| Taylor, Mr. Hy. Enfield, J.P., M. Inst. C.E. | Aston Hall, Hawarden, Chester                                    |
| Taylor, Mr. J., F.R.C.S.                     | 22 Newgate street                                                |
| Taylor, Mr. John                             | Hoole Hall                                                       |
| Taylor, Mr. A. G.                            | 78 Watergate street                                              |
| Taylor, Mrs.                                 | Meadow view, Dee banks                                           |
| Taylor, Mr. J. B.                            | 4 Hough green                                                    |
| Taylor, Mr. R. Mascie                        | Tyn Llwyn, Corwen                                                |
| Tennant, Mrs.                                | City Walls (South)                                               |
| Tennant, Miss                                | " "                                                              |
| Thomas, Mr. E.                               | 18 Pepper street                                                 |
| Thomas, Dr. E. J. Haynes                     | " "                                                              |
| Thomas, Mr. Frank P. Dodd                    | " "                                                              |
| Thomas, Miss M.                              | " "                                                              |
| Thomas, Miss F. M.                           | " "                                                              |
| Thomas, Miss Violet                          | 6 Paradise row                                                   |
| *Thomas, Mr. H.                              | 12 Neville Crescent, Llandudno                                   |
| Thomas, Mr. J. H.                            | 6 Northgate street                                               |
| Thomas, Mr. Maurice                          | 1 Coal Exchange                                                  |
| Thomas, Mr. Felix                            | The Industrial Schools, Boughton                                 |
| Thomas, Mr. E. H.                            | " " "                                                            |
| Thompson, Mr. J., J.P.                       | Boughton Hall                                                    |
| Thompson, Mrs. J.                            | " "                                                              |
| *Thompson, Mr. W.                            | 41 Frodsham street                                               |
| Thompson, Mrs. H.                            | Curzon park                                                      |
| Thompson, Mr. Geo.                           | 13 St. Anne street                                               |
| Thomson, Miss I.                             | Cambrian view                                                    |



|                                        |                                 |
|----------------------------------------|---------------------------------|
| Tilston, Miss .....                    | 1 King's buildings              |
| Timothy, Mr. H. J. ....                | Eccleston, Chester              |
| Tinkler, Mr. G. ....                   | 45 Nicholas street              |
| Tomlin, Mrs. ....                      | Thorpe villa, Liverpool road    |
| Tomlin, Miss Lilian Ethel .....        | " " "                           |
| Tomlin, Miss Edith A. ....             | " " "                           |
| Tomkinson, Mr. Jas., J.P. ....         | Willington Hall, Chester        |
| Townshend, Mr. C. W. ....              | Trevallyn, Wrexham              |
| Trelawny, Mr. H. D., J.P. ....         | Shotwick park, Chester          |
| Trelawny, The Hon. Mrs. ....           | " " "                           |
| *Vincent, Mr. W. ....                  | Brook lodge, Brook lane         |
| Vincent, Mrs. W. ....                  | " "                             |
| Wakefield, Mr. T. ....                 | 1 Parkgate road                 |
| *Walker, Mr. A. O., J.P., F.L.S. ....  | Nant-y-Glyn, Colwyn Bay         |
| Walker, Mrs. A. O. ....                | " "                             |
| Walker, Mr. F. A. ....                 | Hoole park                      |
| Walker, Miss .....                     | 12 Liverpool road               |
| Walley, Miss .....                     | 13 Chichester street            |
| *Ward, Mr. J. C. ....                  | 11 Hough green                  |
| Ward, Miss .....                       | " "                             |
| Ward, Miss .....                       | Abbot's villas, Liverpool road  |
| Warren, Miss .....                     | Abbot's villas, Liverpool road  |
| *Waters, Dr., J.P. ....                | Nicholas street                 |
| Way, Mr. N. A. E. ....                 | 1 Stanley street                |
| Weaver, Mr. W. M. ....                 | Westminster buildings           |
| *Webster, Mr. G. Watmough, F.C.S. .... | 5 Eversley park, Liverpool road |
| Webster, Mrs. ....                     | " " "                           |
| Webster, Mr. Sirrell M. ....           | " " "                           |
| Webster, Miss Amy B. ....              | 52 Watergate street             |
| Webster, Miss Janet .....              | " "                             |
| Wells, Mr. E., Junr. ....              | Eccleston, Chester              |
| Whaley, Mr. S. ....                    | 1 Crane street                  |
| Whalley Mr. Fred. H., P.A.S.I. ....    | Ashfield House                  |
| White, Miss E. ....                    | 5 Abbey street                  |
| Whiteley, Mr. F. ....                  | Helsby, Chester                 |
| Wilbraham, Miss E. ....                | 5 King's buildings              |
| Wilbraham, Miss F. ....                | " "                             |
| Wilcock, Mr. T. M. ....                | 26 Newgate street               |
| Wilkinson Mr R. ....                   | 7 Upper Northgate street        |
| Williams Miss .....                    | Blacon House                    |
| Williams, Miss S. ....                 | " "                             |
| Williams, Mr. J. E. ....               | 61 Upper Northgate street       |
| Williams, Mr. T. ....                  | 6 Northgate street              |
| Williams, Mr. C. R. ....               | The Mount, Waverton             |
| Williams, Mr. John .....               | Aber Cottage, Saltney           |
| Williams, Rev. J. R., M.A. ....        | Pulford Rectory, Wrexham        |
| Willis, Mr. G. ....                    | Bunbury, Chester                |
| Wiseman, Mr. C. ....                   | The Poplars, Dee banks          |
| Wiseman, Mr. Henry .....               | " "                             |
| Wood, Mrs. ....                        | 28 Queen street                 |
| Wood, Miss .....                       | " "                             |
| Woodfin, Miss .....                    | 26 Lorne street                 |
| Wright, Mr. John R. ....               | 63 Bouverie street              |
| *Wynne, Mr. Geo. F. ....               | Plas Gwyn, Minera               |
| Yates, Mr. John Wood .....             | Queen's Park                    |
| Yeadon, Mr. Thos. ....                 | 28 St. Anne street              |

*The following Books have been added to the Library since  
the last Annual Report was issued;*

### BOTANICAL SECTION.

- B 198 Moore (Thos.) Ferns of Great Britain and  
Ireland—Illustrated—Nature printed by Hy.  
Bradbury. *Presented by Miss Brown* ..... 1855
- B 199 Paxton (J.) Pocket Botanical Dictionary. *Pre-  
sented by Mr. M. Harrison* ..... 1849

### GEOLOGICAL SECTION.

- G 159 *Congrès Géologique International Compte Rendu de  
la, Second Session, Bologne, 1881* ..... 1882
- G 160 *Congrès Géologique International, Fourth Session  
London, 1888. Explications des Excursions  
(2 copies)*..... 1888
- G Hicks (H.) On the Cae Gwynn Cave, North Wales,  
with a Note by C. E. De Rance, F.G.S. .... 1888
- G 161 Judd's Volcanoes: What they are and what they  
teach. *Presented by Dr. Stollerfoth* ..... 1881
- G Monograph of the Fossil Reptilia of the Liassic  
Formations, by Prof. Owen. *Presented by  
Mrs. Kingsley*..... 1870
- G 131 Proceedings of the Geologists' Association,  
Vols. X. and XI., 4 Parts ..... 1888-89
- G 95 Proceedings of the Liverpool Geological Society,  
Part 4, Vol. V., 1887-88..... 1888
- G *Relatorio do Congresso Geologico Internacional,  
Londres* ..... 1888
- G 116 Transactions of the Manchester Geological  
Society, Vols. XIX. and XX., 8 Parts. .... 1888-89
- G 84 Vol. XLII. of the Palæontographical Society,  
issued for year 1888, containing—  
Nicholson's Stromatoporoids  
Jones and Sherborn's Tertiary Entomostraca  
Hudleston's Jurassic Gasteropoda  
Buckman's Inferior Oolite Ammonites  
Whidborne's Devonian Fauna of the South of England

### MICROSCOPICAL SECTION.

- M 47 Naegeli and Schwandener's "The Microscope in  
Theory & Practice. *Presented by Dr. Stollerfoth* 1887
- M 36 Quekett Microscopical Club's Journal, Vol. III.,  
Nos. 21 to 24. *Presented by Dr. Stollerfoth*....

## PHOTOGRAPHIC SECTION.

- P 15 Abney (Capt.) Treatise on Photography..... 1885  
 17 Harrison (W. Jerome) History of Photography.. 1888  
 18 Photographic News, Vol. XXXII. .... 1888  
 21 "The Amateur Photographer"..... 1888  
 19 "The Camera," Vol. II. .... 1887  
 20 Ditto Vol. III. .... 1888  
 16 Wilkinson, Photo-Engraving and Photo-Lithography ..... 1887

## ZOOLOGICAL SECTION.

- Z 79 Douglas and Scotts' British Hemiptera, Vol. I.,  
 Hemiptera-Heteroptera ..... 1865  
 Z 82 Flower (W. H.) Osteology of the Mammalia.  
*Presented by Dr. Stollerfoth*..... 1876  
 Z 81 Gerard (M.) *Les Metamorphoses des Insectes*  
*Presented by Dr. Stollerfoth*.....  
 Z 83 Huxley and Martin's Course of Practical Biology.  
*Presented by Dr. Stollerfoth*..... 1883  
 Z 31a Huxley (T. H.) Lessons in Elementary Physiology  
 (Duplicate copy.) *Presented by Dr. Stollerfoth* 1879  
 Z Matthews (A.) and Fowler (W. W.) Catalogue  
 of British Coleoptera. *Presented by A. O.*  
*Walker, Esq.*..... 1883  
 Z 80 McAlpine's Biological Atlas. *Presented by Dr.*  
*Stollerfoth*..... 1881  
 Z 78 Proceedings of the Liverpool Biological Society,  
 Vol. II. *Presented by Mr. A. O. Walker* ..... 1888  
 Second Annual Report on the Puffin Island  
 Biological Station ..... 1889  
 Z Walker (A. O.) Report on the Crustacea of  
 Liverpool Bay, 1886-87 ..... 1888

## MISCELLANEOUS SECTION.

- Annalen des K.K. Naturhistorischen Hofmuseums,*  
 Vienna, 4 Parts ..... 1888-89  
 Annual Report and Proceedings of the Liverpool  
 Science Students' Association, Session 1887-88  
 X 99 Annual Report and Transactions of the North  
 Staffordshire Naturalists' Field Club and  
 Archæological Society ..... 1888

MISCELLANEOUS—*Continued.*

- X 107 Annual Report of the Board of Regents of the Smithsonian Institution, 1885, Part 2 ..... 1886
- Annual Report of the Ealing Microscopical and Natural History Society for 1887-88 ..... 1888
- Boletin de la Academia Nacional de Ciencias en Cordoba (Republica Argentina)*, 2 Parts.....1888-89
- Fletcher (A. E.) Description of an Anemometer capable of measuring the speed of Air in heated Flues, &c. .... 1876
- Handbook of Manchester, prepared for the British Association, 1887 ..... 1887
- Hill (S. A.) Some Anomalies in the Winds of Northern India ..... 1887
- Journal of the Elisha Mitchell Scientific Society (U.S.A.), 1888, Vol. V., Part 2 ..... 1888
- X Journal of the Trenton (U.S.A.) Natural History Society, No. 3, January, 1888 ..... 1888
- Les Merveilles du Monde Invisible*, by Wilfred de Fonveille. *Presented by Dr. Stollerfoth* ..... 1888
- Memoires de la Societé des Naturalistes de Kiew* (Russia), 3 Parts..... 1888
- Parker (W. K.) On the structure and development of the Skull in the Batrachia, 1881; On the Skeleton of the Marsipobranch Fishes, 1883; On the structure and development of the Skull in the Mammalia, 1885; On the Structure and development of the Wing in the common Fowl, 1888. *Presented by the Author through the Rev. C. L. Feltoe* ..... 1888
- Parkhurst (H. M.) Photometric Observations of Asteroids (Annals of the Harvard College Observatory, U.S.A.) ..... 1888
- Plowright's British Uredineæ and Ustilagineæ. *Presented by Dr. Stollerfoth*..... 1889
- X 27 Proceedings and Transactions of the Natural History Society of Glasgow, Vol. II., Part 1 .. 1888
- X 25 Proceedings of the Bristol Naturalists' Society, Vol V., Part 3 .....1887-88
- X 26 Proceedings of the Liverpool Naturalists' Field Club for 1887 ..... 1888
- X 26 Proceedings of the Liverpool Naturalists' Field Club for 1888 ..... 1889
- X 104 Proceedings of the Royal Society, Vol. XLIII., Nos. 263-4-5 ..... 1888

MISCELLANEOUS—*Continued.*

- X 29 Report and Proceedings of the Manchester Field Naturalists and Archæologists' Society for 1887 1888
- X 30 Report and Proceedings of the Manchester Scientific Students' Association for 1888 .... 1889
- X 126 Report of the British Association for 1888..... 1889  
 Report of the Commissioners appointed to inquire into the Sea Fisheries of the United Kingdom.  
*Presented by Mrs. Kingsley* ..... 1866  
 Report of the Inspectors of Salmon Fisheries (England and Wales.) *Presented by Mrs. Kingsley* ..... 1869
- X 36 The Essex Naturalist (Journal of the Essex Field Club), Monthly Parts ..... 1888-89  
 "The Field," 19 Half-yearly Vols., from 1869 to 1878. *Presented by F. A. Walker, Esq.* ....  
 "The Naturalist," the Monthly Parts of .....  
 Total Eclipse of the Moon, January 28th, 1888, with Plates (Annals of H.C.O.).....  
 Total Eclipse of the Sun, August 29th, 1886, with Plates (Annals of H.C.O.).....  
 Transactions and Report of the Nottingham Naturalists' Society..... 1888
- X Transactions of the Cardiff Naturalists' Society, Vol. XX., Part 1..... 1888  
 Transactions of the Linnean Society of London, Vols. XXIII. to XXIX., 18 Parts, *Presented by Mrs. Kingsley* ..... 1862-72  
 Transactions of the Linnean Society of London, 2 Parts, 1864 and 1875. *Presented by A. O. Walker, Esq.*.....  
 Webster (J. J.) Dredging Operations and Appliances..... 1887

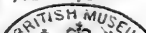
Graphoscope. *Presented by Miss Brown*.....

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|-----------|---|---|---|-------------|
| MONDAYS   | - | - | - | 7 to 8 p.m. |
| THURSDAYS | - | - | - | 7 " 8 "     |
| SATURDAYS | - | - | - | 2 " 4 "     |

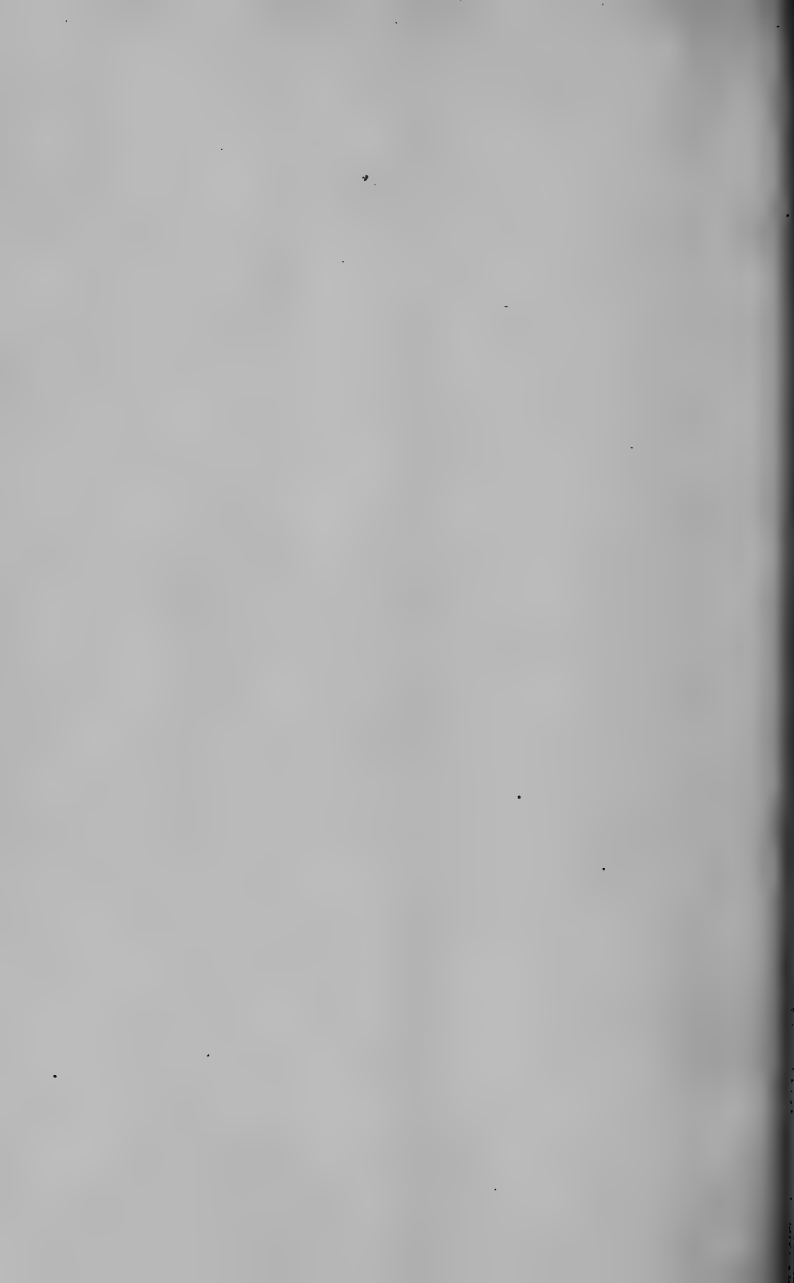
NOTICE.—Copies of the SOCIETY'S PROCEEDINGS, (No. 1, price 6d., Nos. 2 and 3, price 2/6 each); also the CATALOGUE of the Society's Library, with recent additions (price 1d.) may be obtained from MR. JOHN MILLS, Eastgate Row; MR. G. R. GRIFFITH, Grosvenor Street; or the CURATOR, Grosvenor Museum.

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28 JUL. 90

CHESTER

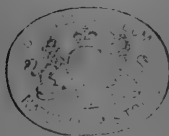
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NINETEENTH  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS,  
FOR THE YEAR 1889-90.



CHESTER:

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NINETEENTH ANNUAL REPORT

AND

*STATEMENT OF ACCOUNTS for 1889-90,*

AND THE

**LIST OF MEMBERS FOR 1890-91,**

ALSO

A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION.

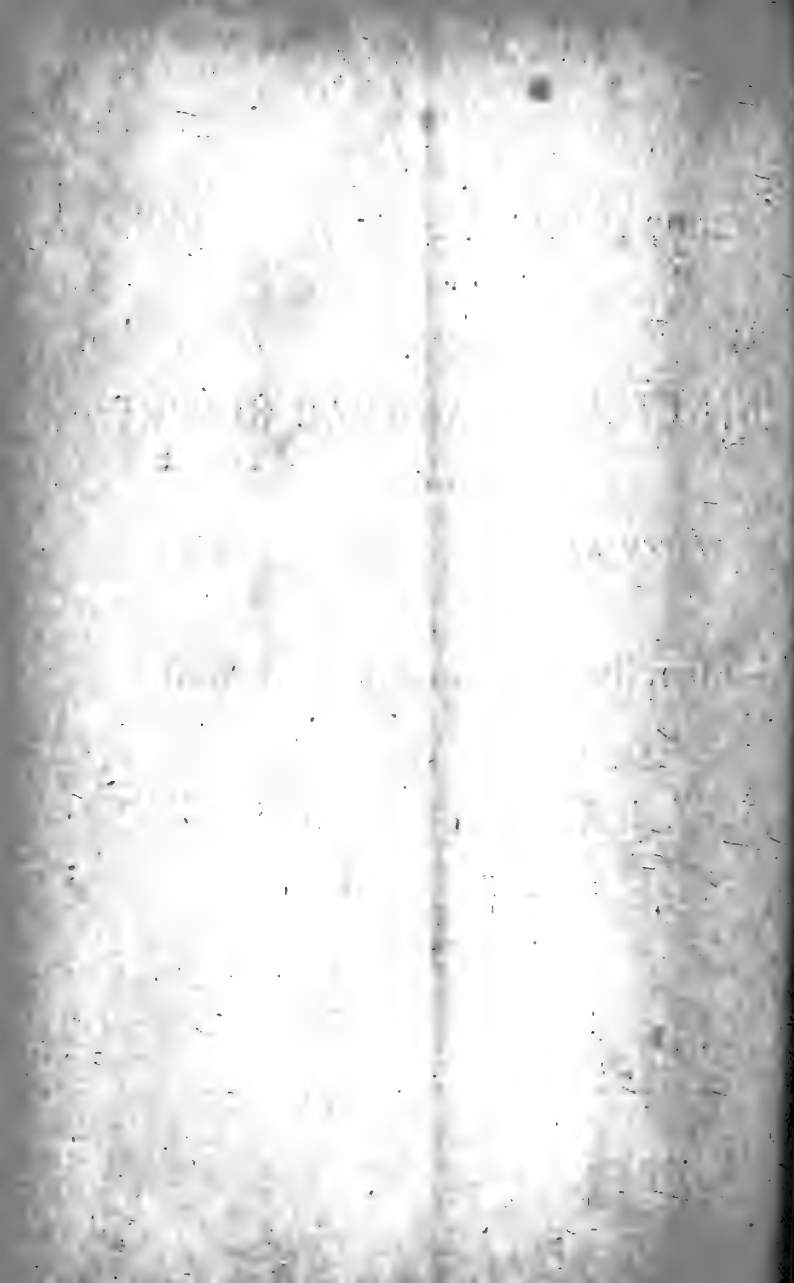


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SECRETARY—MR. J. H. SPENCER ... ..36, *Bridge Street.*

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                          MR. W. H. OKELL, 1, *Northgate Street.*

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AND

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REV. A. H. FISH, B.A., B.Sc.  
MR. JOHN GRIFFITHS

MR. F. F. HICKMAN  
DR. H. W. KING  
MR. W. VINCENT

## Hon. Auditors :

MR. J. ROWE DUTTON.

MR. BERESFORD ADAMS.

## Curator :

MR. R. NEWSTEAD, F.E.S., *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its object be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in the Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting, which shall be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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YOUR Committee have pleasure in presenting this the Nineteenth Annual Report, as in so doing they are able to testify to the prosperity of the Society. The number of Members now on the books is 661, showing an increase of 44 during the last year.

We have to record with regret the loss of one of our earliest Honorary Members, MR. CHARLES EASTON SPOONER. He was born at Maentwrog in 1818. During a long life he did much to develop the industries of Wales. He introduced the Narrow-Gauge Railways, with which his name will always be associated. He took a deep interest in our Society, and on many occasions gave us substantial help.

In last year's Report you will observe that our title no longer stands as the "*Chester Society of Natural Science*." Valuing much all that has been done in the direction of Natural Science, which owed its first stimulus to our founder, CHARLES KINGSLEY, we still acknowledge him as a master in a wider field, and are very sure we should have had his sympathy in our new departure. If we would, we could not have excluded literature, as no branch of science could exist without it. But it was felt by some of our Members that there was another range of thought outside the purely scientific, and that such subjects as Poetry, History, and Biography, ought not to be unrepresented. These subjects, including as they do a store of mental facts and critical acumen, conduce not a little to the improvement of taste and the development of genius. The new Section was happy in securing so admirable a Chairman as BISHOP JAYNE; and the Secretary, the REV. A. H. FISH, produced a programme for the Session which has proved an unqualified success. From the good attendance at the Lectures we feel satisfied that there are many who follow with pleasure the operations of the human mind when given to the contemplation and elucidation of high and

pure thought. So we rejoice that a want has been supplied, which it is hoped will give strength to the Society, keeping together all those who wish for the general diffusion of knowledge.

We regret that the Management Committee of the Grosvenor Museum have not seen their way to enlarge the building. The Natural History specimens are becoming sadly crowded, but this we hope may be remedied in process of time.

Our Curator, MR. R. NEWSTEAD, will place before you a Report of the Natural History Museum, with a list of those who, by their donations, have increased our local collections.

The Committee take this opportunity of thanking MR. NEWSTEAD for his great and untiring devotion to the production of a good local collection of Natural History specimens. The value of a Museum is more than doubled by having at its head a Curator who knows, appreciates, and loves the objects by which he is surrounded. Owing to MR. NEWSTEAD'S great willingness to assist all those who are anxious to learn, many visit the Natural History department not only to see, but to hear all that the Curator has to impart with regard to the peculiarities and life-history of the specimens, and they go away not only interested but better prepared for future investigation on their own account and further study. The more specimens we receive accurately described and labelled the better for all those who visit the Museum.

The Library of the Society is in good order, and the loan of books from the Free Library is of material assistance to the Students.

Our Honorary Treasurer, MR. MILLS, will read the Balance Sheet for the past year. Although it may seem but a trifling business to collect the small annual sums which make up our income, I would wish to remind our Members that if they would pay in their subscriptions early in the year they would materially lighten MR. MILLS'S labours. We feel we owe him a debt of gratitude for having managed the finances so well for so many years.



The Honorary Treasurer for the Kingsley Memorial Fund, MR. BAILLIE, will place before you his Balance Sheet.

The general work of the Society we place as usual under the following heads:—

|                    |                         |
|--------------------|-------------------------|
| EXCURSIONS         | CONVERSAZIONE           |
| EVENING RAMBLES    | CLASSES FOR INSTRUCTION |
| GENERAL MEETINGS   | PRIZES                  |
| SECTIONAL MEETINGS |                         |

The following places were visited during the past summer:—

|            |                                |
|------------|--------------------------------|
| 1889.      |                                |
| May 24th   | Bodfari and Maesmynan.         |
| June 15th  | Halkyn Lead Mine.              |
| July 18th  | Helsby.                        |
| Sept. 10th | "The World's End," Llangollen. |

#### EVENING RAMBLES.

|           |                                   |
|-----------|-----------------------------------|
| May 31st  | The Dale and Mostyn Wood.         |
| June 5th  | Upton Nurseries.                  |
| June 14th | Delamere Forest.                  |
| June 21st | Bache Hall.                       |
| July 3rd  | Waverton.                         |
| July 12th | Mollington.                       |
| July 24th | The Serpentine and Eaton Gardens. |
| July 31st | Lache Eyes.                       |
| Aug. 7th  | The Avenue and Town Lane.         |

It will be seen there were only four Day Excursions, but three of the Evening Rambles were reckoned as General Meetings, and in this way the spirit of the Rules was preserved, and the work of the Society carried on.

The Annual Conversazione took place on the 3rd of October, when we had the pleasure of welcoming our President, PROF. MCKENNY HUGHES. The meeting was a large and successful one. The recipient of the Kingsley Memorial Medal was MR. T. RUDDY, the well-known Geologist, whose work amongst the Cambrian Rocks is of high scientific value. Our President welcomed MR. RUDDY as the recipient of the Kingsley Medal in most flattering terms. Her Majesty The Queen, when at Palé, examined MR. RUDDY's valuable collections, and expressed much interest in all he had done.

The Kingsley Memorial Prize was this year divided—£5 to MISS EDITH C. TOMLIN, for her Collection of *Diptera* and *Hymenoptera*; £5 to MR. W. E. SHARP, for his Collection of *Coleoptera*; a Grant of £5 to MR. NEWSTEAD, for his researches into the life-histories of Injurious Insects. Smaller Grants were also made to MR. A. J. NIXON, MISS ANNIE SIDDALL, and MISS MURIEL BROADBENT.

The chief feature of the Council Chamber was that this year the Electric Light was used for illuminating the Microscopes. The success was not as great as we could have wished, but the experience gained counted for something, and no doubt another year we shall manage better. It was a great thing to get rid of the heat and smell of the oil lamps. The objects exhibited were quite up to the average, and as is always the case, the room proved very attractive.

In the Assembly Room there was a fine collection of Herbaceous Plants, and during the evening MR. E. J. BAILLIE spoke of their cultivation and uses.

There was a Lantern Exhibition in the Sessions Court, by MR. G. E. THOMPSON, who gave an interesting lecture, entitled "Rambles along the Riviera." We have been indebted on several former occasions to MR. THOMPSON for very beautiful displays of Photographic Slides, which have been greatly appreciated.

The General Meetings of the past winter were as follows:—

1889.

Nov. 7—"The Development of Machines," by PROF. HELE SHAW, of University College, Liverpool.

Nov. 28—"Some aspects of Poetry," by the REV. CANON MORRIS, D.D.

1890.

Jan. 23—"Agricultural Experiments," by PROF. ED. KINCH, F.C.S., of the Royal Agricultural College, Cirencester.

Feb. 19—"Heredity," by E. B. POULTON, ESQ., F.R.S.

Mar. 6—"On Dictionaries," by T. N. BRUSHFIELD, ESQ., M.D.

Apr. 24—Annual General Meeting—"Studies in Japanese Pictorial Art," by H. M. J. UNDERHILL, ESQ., of Oxford.

It will be seen by the subjects treated in the General Lectures that the Literary Section has not been without influence. Several new names appear before us, and the attendance of Members has been very good. The Lectures given by DR. BRUSHFIELD and MR. POULTON were of exceptional interest. Both spoke on subjects which they had made completely their own, and although the Lecture entitled "Dictionaries" did not sound inviting, it proved full of instruction, and, in the hands of DR. BRUSHFIELD, one of special literary interest. "Heredity" is one of the great topics of the day, and MR. POULTON is one of the great authorities on the subject, so that we had a rare opportunity of hearing it well discussed.

The Sectional Meetings have been as follows :—

#### SECTION OF LITERATURE.

1889.

Nov. 13—An Inaugural Address by the Chairman, THE LORD BISHOP OF CHESTER.

1890.

Jan. 6—"John Ruskin," by MR. E. J. BAILLIE, F.L.S.

Feb. 10—"Translations and their value," by the REV. C. L. FELTOE, M.A.

Mar. 10—"The Chester Mysteries and their connection with English Literature and the English Drama," by MRS. HENRY SANDFORD.

Mar. 27—"The Influence of Literature on Daily Life," by MR. J. H. A. HALL.

Apr. 14—"Kingsley's Hypatia," by MR. W. SHONE, F.G.S.

You will observe that, with the exception of MR. SHONE and MR. BAILLIE, this Section has been indebted for its Papers to Members who have come forward for the first time. The attendance has been good. MRS. SANDFORD'S Paper, which was of local interest, enlisted a large audience, who must have gone away impressed by the ability and research displayed in bringing together facts and coincidences well worth saving from oblivion. We can only hope other ladies may come forward with Papers of equal interest.

## 1889. APPLIED SCIENCE SECTION.

Nov. 14—"Engineering progress during the past year," by the Chairman,  
MR. W. P. J. FAWCUS, C.E.

1890.

Jan. 9—"Some applications of Magnetism," by the Secretary, MR.  
E. W. COWAN, A.M.I.C.E.

Apr. 17—"The new system of Industrial Motive Power Co-operation,"  
by MR. JOHN STURGEON, C.E.

## 1889. BOTANICAL SECTION.

Nov. 21—"The Order *Solanaceæ*, with special Notes upon the Potato," by  
MISS M. H. OKELL.

1890.

Jan. 16—"Leguminous Plants," by the Secretary, MR. G. P. MILN.

Mar. 31—"Spring Flowers," by MR. LEO H. GRINDON, Manchester.

In connection with the Botanical Section of the Society there has been formed a Society of practical gardeners, called "The Paxton Society," which has met regularly on the first and third Saturdays of the month, for the purpose of exchanging ideas and reading Papers on Horticultural subjects. These Meetings take place in the Grosvenor Museum, and have been well attended. The subscription is very small, so as to enable all who take an interest in the subject to join for the purpose of improving and cultivating Botanical knowledge. Our Society looks on this affiliated Society as a very hopeful sign. The number of Members now belonging to the Paxton Society is 65, and we wish it every success.

## 1889. ZOOLOGICAL SECTION.

Dec. 5—"Notes on the Season 1889," by the Chairman, MR. A. O.  
WALKER, and others.

1890.

Jan. 31—"Notes on the Heron and Heronries of Cheshire and North Wales,"  
by MR. R. NEWSTEAD, Curator.

Mar. 20—"Types of Metamorphosis in the development of *Crustaceæ*,"  
by MR. ISAAC C. THOMSON, F.L.S.

## 1889. GEOLOGICAL SECTION.

Dec. 12—"British Scenery in its relation to Geological Structure and  
Denudation," by MR. OSMUND W. JEFFS, F.G.S., Liverpool.

1890.

Feb. 6—"The condition of the World in relation to other celestial bodies, as  
revealed to us by the Telescope and the Spectroscope," by  
the Secretary, MR. A. W. LUCAS, F.R.G.S.

Apr. 3—"The Deluge: a tradition of the Glacial Period," by the Chairman,  
MR. W. SHONE, F.G.S.

1889. NATURAL PHILOSOPHY SECTION.

Dec. 19.—“Circulation of the Blood,” by MR. F. J. BONNALIE, L.D.S.

1890.

Feb. 13.—“The February Sky,” by MR. W. VINCENT.

Apr. 11.—“The Atmosphere and its constituents in relation to Animal Life,”  
by MR. G. E. MACDONALD.

The Photographic Section will furnish a separate Report containing all particulars of their Meetings. We are indebted to this Section for assistance in illustrating a large proportion of the Papers read before the Society. Scientific subjects can in no way be so well illustrated as by photography. The lantern has replaced the large diagrams which used to hang on our walls, and the facility with which minute objects can be accurately reproduced by Photography and then enlarged by the lantern proves not only a saving of time and trouble, but introduces a wonderful certainty with regard to such forms and structures as have hitherto only been seen under the Microscope, and so remained the property of the few. We therefore record our best thanks to the Members of the flourishing Photographic Section for all it has done for our Society.

During the past winter, under the Oxford Extension Scheme, we have had a most interesting course of Lectures given by MR. E. B. POULTON, F.R.S., on “The protective value of colour in animals.” These Lectures were well attended, and afforded much sound instruction in a field of research full of interest. Those who were present must have enjoyed hearing so able a teacher.

Your Committee have met frequently during the past year, and have done all in their power to promote the best interests of the Society by affording every facility for the increase of that knowledge which tends to give fresh interest to the locality in which we live. They trust that their endeavours have met with the approval of the Members to whom they make this Report.

HENRY STOLTERFOTH, M.A., M.D.,  
*Scientific Secretary.*

# CURATOR'S REPORT FOR 1889-90.

THE additions to the Museum since April 16th, 1889, in point of numbers again exceed those of the previous year. They consist of many choice and rare species, a full list of which is given in this Report.

The following is a total abstract of the number of species and specimens:—

|                                                          | Species Presented. | Species Purchased. | Total of Species. | Total of Specimens. |
|----------------------------------------------------------|--------------------|--------------------|-------------------|---------------------|
| <i>Echinodermata</i> , &c. .. ..                         | 2                  | ..                 | 2                 | 3                   |
| <i>Crustacea</i> (Shrimps, &c.) .. ..                    | 3                  | ..                 | 3                 | 3                   |
| <i>Arachnida</i> (Spiders, &c.) .. ..                    | 2                  | ..                 | 2                 | 2                   |
| <i>Coleoptera</i> (Beetles) .. ..                        | 92                 | ..                 | 207               | 476                 |
| <i>Orthoptera</i> (Grasshoppers, &c.) .. ..              | 3                  | ..                 | 3                 | 3                   |
| <i>Neuroptera</i> (Dragon Flies, &c.) .. ..              | 2                  | ..                 | 2                 | 2                   |
| <i>Hymenoptera</i> (including Wasp Nest Parasites) .. .. | 28                 | ..                 | 84                | 227                 |
| <i>Lepidoptera</i> (Moths, &c.) .. ..                    | 140                | ..                 | 140               | 326                 |
| <i>Coccidæ</i> (Scale Insects) .. ..                     | 9                  | ..                 | 9                 | ..                  |
| <i>Hemiptera</i> (Plant Bugs, &c.) .. ..                 | 3                  | ..                 | 3                 | 3                   |
| <i>Diptera</i> (House Flies, &c.) .. ..                  | 2                  | ..                 | 95                | 358                 |
| Life-histories of Injurious Insects .. ..                | ..                 | ..                 | 53                | 53                  |
| <i>Mollusca</i> (Shells) .. ..                           | 20                 | ..                 | 20                | 51                  |
| <i>Pisces</i> (Fish) .. ..                               | 7                  | ..                 | 7                 | 8                   |
| <i>Reptilia</i> .. ..                                    | 1                  | ..                 | 1                 | 2                   |
| <i>Aves</i> (Birds) .. ..                                | 27                 | 3                  | 30                | 47                  |
| Eggs and Nests .. ..                                     | 16                 | ..                 | 16                | 31                  |
| <i>Mammalia</i> (Animals) .. ..                          | 4                  | ..                 | 4                 | 10                  |
| Geology .. ..                                            | 12                 | ..                 | 12                | 46                  |
| Miscellaneous .. ..                                      | ..                 | ..                 | ..                | 404                 |
| <b>TOTAL</b> .. ..                                       | <b>373</b>         | <b>3</b>           | <b>693</b>        | <b>2055</b>         |

All the Insects enumerated have been catalogued and arranged in their natural order in the cabinets provided for that purpose.

The collection of Bees and Wasps, and other Insects belonging to the *Hymenoptera*, have been rearranged and labelled. Insects belonging to various other orders have also undergone a thorough investigation, and have been, as far as practicable, classified and arranged in their natural order.

Fifty-three life-histories of various orders have been prepared, and prove of the greatest interest and value to those who visit the Museum. Many others are partly finished, and it is hoped that by the end of the present year your Curator will have added many more to the collection.

It is a matter of the greatest regret that all our exhibitive space is now occupied, consequently, further exhibits prepared must be stored away until additional space can be provided.

The same applies to the Geological collections, many of which are now lying in boxes in the basement rooms.

Two additional life-histories of Birds have been prepared, and another is nearly complete. Some of the Birds have been remounted upon the new blocks kindly presented by MR. F. F. BROWN, but the greater part are still upon the old mounts; however, in the course of a month or so, it is hoped that they will be completed, when some permanent style of labelling will be adopted.

Owing to our Library being very deficient in Zoological and other reference books, I am again considerably indebted to the following for the use of their valuable reference works, without which it would have been impossible to carry on good work:—REV. E. A. PITCAIRN CAMPBELL, MR. W. HODGES, MR. SAMUEL RIGBY, DR. STOLTERFOTH, The MISSES TOMLIN, and MR. ALFRED O. WALKER.

It may be satisfactory to know that all the additions to the Society's Museum are catalogued up to date, and that a considerable amount of detail work has been carried on during the past year which it is unnecessary to quote, as a full account is given in the Curator's Diary, which can be seen on application.

I cannot close my Report without making mention of at least some few of the well-known Entomologists of the day who have kindly rendered such personal assistance as enabled me the better to complete some particular work which I had in hand at the time:—MISS ORMEROD, MR. EDWARD SAUNDERS, F.E.S., REV. CANON FOWLER, F.L.S., MR. J. W. DOUGLAS, F.E.S., and MR. G. B. BUCKTON, F.R.S., &c.

## LIST OF ADDITIONS.

## ECHINODERMATA, &amp;c.

Number of  
Specimens.

- 2 *Comatula rosacea* .. .. . By Mr. J. D. Siddall  
1 *Pectinctaria belgica* .. .. . „ Mr. A. O. Walker

## CRUSTACEA (Crabs, Shrimps, &amp;c.)

- 1 *Amphithoe podocerooides* .. .. . By Mr. A. O. Walker  
1 *Gammarus locusta* .. .. . „ „ „  
1 *Dexamine spinosa* .. .. . „ „ „

## ARACHNIDA (Spiders, &amp;c.)

- 1 Spider (sp. ?) .. .. . By Mr. B. Tomlin  
*Chyletus venustissimus* on *Caradrina cubicularis* .. „ Mr. J. Arkle

## COLEOPTERA (Beetles.)

By Mr. B. Tomlin—

Number of  
Specimens.

- 6 *Aphodius tessellatus*

By Mr. A. O. Walker—

- 31 Species

By Miss L. E. Tomlin—

- 4 *Agathidium nigripenne*  
6 Species (unnamed)

By Mr. J. Lyon Denson—

- 3 *Calandra granarius*  
3 *Niptus hololeucus*  
3 other Species

By Mr. T. Smith—

- 6 *Niptus hololeucus*

By Mr. Thos. Shephard—

Number of  
Specimens.

- 1 *Otiiorhynchus picipes*

By Mr. W. E. Sharpe, Ledsham—

- 2 *Aphodius depressus*  
1 *Quedius semieneus*  
1 *Donatia Typha*

By the Curator—

- 5 Species of *Coccinellidæ*  
6 *Rizotrogus solstitialis*  
1 *Othius leviusculus*  
1 *Epurea obsoleta*  
1 *Antherophagus pallens*  
35 Common Species

## ORTHOPTERA (Grasshoppers, &amp;c.)

- 3 Species .. .. . The Curator

## NEUROPTERA (Dragon Flies, &amp;c.)

- 2 .. .. . By Mr. J. Arkle



## HYMENOPTERA (Bees, Wasps, &amp;c.)

## By the Curator—

Number of  
Specimens.

- 1 Nest of *Vespa germanica* (Wasp)  
 3 " " *vulgaris* "  
 1 " " *Britannica* "  
 14 *Vespa germanica*  
 12 " *vulgaris*  
 12 " *Britannica*

The following unique collection of Wasp  
 Parasites, consist of various orders:—

- 5 *Quedius puncticollis*  
 2 Larvæ ditto  
 4 *Cryptophagus setulosus*  
 6 " *pubescens*  
 1 *Choleva tristis*  
 1 *Thyamis lurida*  
 3 *Pterostichus vulgaris*  
 2 *Bradycellus verbasci*  
 1 *Leistus rufescens*  
 2 *Homalota succicola*  
 4 *Cryptoneura stabulans* Fallen  
 6 Pupæ and ovæ of ditto  
 6 *Homalomyia canicularis* Linn  
 1 " *vespinalis* Meade  
 (new to Science)

## By the Curator—

Number of  
Specimens.

- 6 *Decanthiptera inanis*  
 4 Pupæ, larvæ, and ovæ of ditto  
 3 *Phora rufipes*  
 6 Pupæ of ditto  
 2 Larvæ of *Volucella plumosa*  
 Ovæ of ditto  
 1 *Aspilota concinna*  
 1 *Proctotrupes* (?)  
 3 *Uropoda elongata* Hal (new to  
 Britain.)

## By Mr. A. J. Nixon, Manley—

- 3 *Rhipiphorus paradoxus*

By Rev. J. F. Buckler, Bidston  
Rectory—

- 1 Embryo Nest of *Vespa ger-*  
*manica* (Wasp)

## By Miss C. Tomlin—

- 3 Species *Andrenidæ*

## By Mr. J. Arkle—

- 1 *Odynerus spinipes*  
 1 *Ophion luteum* (?)

## LEPIDOPTERA (Moths, &amp;c.)

## By Mr. J. Arkle—

- 7 *Xylophasia xanthographa*  
 4 " *polyodon*  
 1 " *rurea*  
 1 *Orgyia pudibunda*  
 1 *Noctua festiva*  
 1 *Agrotis tritici*  
 1 *Apamea oculea*  
 4 *Tryphæna pronuba*  
 1 " *interjecta*  
 4 " *orbona*  
 2 " *janthina*  
 2 *Noctua umbrosa*  
 2 " *rubi*  
 2 *Melanippe subtristata*  
 6 " *fluctuata*  
 1 *Acronycta psi*  
 3 *Amphipyra tragopogonis*  
 2 *Caradrina cubicularis*  
 1 *Lomaspilis marginata*  
 4 *Thecla rubi*  
 2 *Arctia menthastri*  
 1 " *lubricipeda*  
 3 *Zygena filipendulæ*  
 4 *Argynnis paphia*  
 8 " *adippe*  
 1 Larva *Nyssia hispidaria*

## By Mr. J. Arkle—

- 1 *Noctua plecta*  
 1 *Liparis salicis*  
 4 *Rumia cratægata*  
 2 *Mania maura*  
 2 *Satyrus megera*  
 2 " *pamphilus*  
 2 *C. Elinguaria*  
 8 *Diloba ceruleocephala*  
 4 *Plusia gamma*  
 2 " *chrysitis*  
 2 *Xanthia cerago*  
 1 *Eubolia cervinaria*  
 1 *Satyrus Tithonus*  
 1 *Agrotis porphyrea*  
 1 *Cidaria immanata*  
 4 " *suffumata*  
 17 " *russata*  
 6 " *unidentata*  
 1 *Phlogophora meticulosa*  
 3 *Liparis auriflua*  
 2 *Coremia propugnata*  
 3 *Timandra amatoria*  
 1 *Epione apiciaria*  
 4 *Anisopteryx Escularia*  
 1 *Cheimatobia brumata*  
 1 *Hybernina defoliaria*

## LEPIDOPTERA—Continued.

By Mr. J. Arkle—

Number of  
Specimens.

- 1 *Hybernia progemmaria*  
 3 *Peronea mixtana*  
 4 *Lemnatophila phryganella*  
 5 *Tortricodes hyemana*  
 6 *Teras contaminana*  
 4 *Pionea forficalis*  
 2 *Tortrix rosana*  
 1   " *viburnana*  
 1   " *xylosteana*  
 1   " *sorbiana*  
 1   " *ministrana*  
 1 *Peronea aspersana*  
 4 *Pterophorus trigonodactylus*  
 2 *Scopula prunalis*  
 1   " *lutealis*  
 1   " *olivalis*  
 2 *Penthina pruniana*  
 1 *Endrosis fenestrella*  
 2 *Cecophora* (?)  
 1 *Parponyx stratiotalis*  
 1 *Lemnatophila phryganella*  
 1 *Diurnea fagella*  
 1 *Herminia tarsipennalis*  
 1 *Phycis carbonariella*  
 1 *Depressaria* (?)  
 1 *Herbula cespitalis*  
 1 *Pædisca corticana*  
 2 *Crambus inquinatellus*  
 5   " *margaritellus*  
 2 *Melia sociella*  
 1 *Phytometra ænea*  
 1 *Emmychia octomaculata*  
 Batch of large empty ovæ (?)

By Mr. Thos. Shephard—

- Larvæ of *Yponomeuter mali-*  
*vorella*  
 1 *Tortrix viridana*  
 1 *Crambus pratellus*  
 1 *Uropteryx sambucata*  
 30 Species of various larvæ  
 1 *Cymatophora duplaris*

By the Curator—

Number of  
Specimens.

- 2 *Amphydasis betularia* (black  
 vars.)  
 5 Larvæ of *Geometra papilionaria*  
       *Hibernia aurantiaria*  
 6 *Fidonia piniaria*  
 1 *Asthena luteata*  
 3 *Notodonta dromedarius*  
 2   " *camelina*  
 2 *Ellopiæ fasciaria*  
 1 *Beudoterpna cytisaria*  
 1 *Geometra papilionaria*  
 15 *Ephestia Kuhniiella* (new to  
       Britain)  
 1 *Notodonta dictæa*  
 5 *Hybernia aurantiaria*  
 4 *Eriogaster lanestris*  
 34 Common Species

By Miss C. Tomlin—

- 1 *Polyommatus Argiolus*

By Mr. J. D. Siddall—

- 1 *Sphinx populi*

By Mr. Robert Shephard, Mickledale—

- 1 Larva of *Acherontia atropus*  
 (Death's-head Moth)

By Mr. H. B. Dutton—

- Series larvæ of *Pygæa bucephala*

Mr. Frank Bolland—

- 1 *Thyatira derasa*  
 1 *Charocampa elpenor*

By Mr. G. E. Barber—

- Larvæ of *Pieris brassicæ*

## COCCIDÆ (Scale Insects.)

- |   |                                    |    |    |    |                |
|---|------------------------------------|----|----|----|----------------|
|   | <i>Chionaspis fraxini</i> Signoret | .. | .. | .. | By the Curator |
|   | <i>Dactylopius destructor</i>      | .. | .. | .. | " "            |
| 5 | Species of <i>Lecanium</i>         | .. | .. | .. | " "            |
| 2 | <i>Mytilaspis</i>                  | .. | .. | .. | " "            |

And many Species not yet identified.

## HEMIPTERA.

Number of  
Specimens.

3 Species .. .. . By Miss L. E. Tomlin

## DIPTERA (Two-winged Flies.)

2 Species .. .. . By Mr. J. Arkle

50 Life-histories of Injurious Insects.. .. By the Curator

## MOLLUSCA (Shells.)

By Mr. B. Tomlin—

Number of  
Specimens.

- 1 *Tectura virginea*  
 1 *Helcion pellucidum*  
 1 *Chiton fascicularis*  
 5 *Lacuna divaricata*  
 7 „ *pallidula*  
 1 „ *puteolus*  
*Pupa ringens*  
 4 *Hyalina crystalina*  
 3 „ *pura*  
*Corychium minimum*

By Mr. A. O. Walker—

- 1 *Doris tuberculata*  
 1 *Clausilia laminata*

By Mr. G. W. Shrubsole—

Number of  
Specimens.

- Series *Macra stultorum*  
 „ *Lutraria elliptica*  
 „ *Venus gallina*  
 „ *Psamobia ferroensis*  
 „ *Fusus antiquus*  
 „ *Cardium echinatum*

By Mr. Chas. Oldham—

- 9 *Paludina contecta*  
 8 *Anadon cygnea* (2 vars.)

## PISCES (Fish.)

By Mr. Thos. Shephard—

- 1 Butter Fish (*Gunnellus cornubiensium*)

By Mr. A. O. Walker

- 1 Lump Fish (*Cyclopterus lumpus*)  
 1 Codfish (*Morhu collaris*)  
 1 Skate (*Raia batis*)

By Mr. A. Tatler

- 1 Angler Jun. (*Lophis piscatorius*)

By Mr. B. Tomlin—

- 2 Snake-pipe Fish (*Syngnathus anguineus*)

By Mr. Guy—

- 1 Roach (*Leuciscus rutilus*)

## REPTILIA (Snakes, &amp;c.)

2 Common Ring Snake (*Natrix toryuata*) .. By Mr. F. R. Bolland

## AVES (Birds.)

His Grace The Duke of Westminster,  
K.G.—

- 1 Heron (*Ardea cinerea*)  
 1 Peregrine Falcon (*Falco peregrinus*)

By Mr. Smith, Saughton Grange—

- 1 Cuckoo (*Cuculus canorus*)  
 1 Blue Back (*Turdus pilaris*)  
 1 Barn Owl (*Strix flammea*)

By Lord Arthur Grosvenor—

- 1 Merganser (*Mergus merganser*)  
 1 Golden Eye (*Clangula glaucion*)  
 1 Little Grebe (*Podiceps minor*)  
 1 Grey Wagtail (*Montacilla Rayi*)

By Mr. Cookson, Junr.—

- 1 Spotted Crane (*Crux porzana*)  
 2 Crossbill (*Loxia curvirostra*)  
 1 Long-eared Owl (*Asio otus*)

## AVES—Continued.

By Mr. James Clutton—

Number of  
Specimens.

- 1 Water Rail (*Rallus aquaticus*)
- 1 Blue Tit (*Parus caeruleus*)

By Mr. R. P. Bradbury—

- 2 Cole Tit (*Parus ater*)

By Mr. A. O. Walker—

- 1 Blue Tit (*Parus caeruleus*)
- 1 Water Rail (*Rallus aquaticus*)
- 1 „ Ouzel (*Cinclus aquaticus*)
- 1 Longtailed Tit (*Parus caudata*)

By Mr. R. Newstead, Senr.—

Life History of the Rook  
(*Corvus frugilegus*), Male,  
Female, Nest, and Eggs.

- 1 Tree Creeper (*Certhia famili-  
aris*)
- 2 Redbreasts (*Erithacus rube-  
cula*)
- 2 Great Tit (*Parus major*)
- 2 Starling (*Sturnus vulgaris*)

By Mr. A. J. Nixon—

- 2 Long-tailed Tit (*Parus cau-  
data*)

By Mr. Stretch, Ledsham—

- 1 Hooded Crow (*Corvus cornix*)

By Miss C. Tomlin—

Number of  
Specimens.

- Nest and 3 Eggs of Redbreast  
(*Erithacus rubecula*)

By Master Ernest Jayne—

- 1 Dipper (*Cinclus aquaticus*)

By Mr. G. R. Griffith—

- 2 Common Tern (*Sterna fluvia-  
tilis*)

By Mr. R. O. Orton—

- 1 Waxwing (*Ampelis garrulus*)

Purchased—

- 1 Curlew Sandpiper (*Tringa  
subarcuata*)
- 1 Partridge (*P. cinerea*)
- 1 Corn Crake (*Crex pratensis*)

By Dr. W. H. Dobie—

- 3 Little Tern (*Sterna minuta*)
- 3 Brambling (*Fringilla monta-  
fringilla*)
- 1 Merlin (*Falco Aesalon*)

By Mr. Hugh Lyle Smyth—

- 1 Green Sandpiper (*Totanus  
ochropus*)

## EGGS AND NESTS.

By His Grace the Duke of West-  
minster, K.G.—

- 1 Heron (*Ardea cinerea*)

By Mr. Smith, Saighton Grange—

- 1 Nest and 4 Eggs of the Kestrel  
(*Falco tinnunculus*)
- 2 Sparrow Hawk (*Accipiter nisus*)
- 1 Nest and 3 Eggs Carion Crow  
(*Corvus cornix*)
- 5 Eggs Little Grebe (*Podiceps  
minor*)

By Mr. S. J. R. Dickson—

- 1 Nest and 10 Eggs Great Tit  
(*Parus major*)
- 1 Nest of Common Wren (*Tro-  
glodytes parvulus*)

By Mr. R. P. Bradbury—

- 1 Nest and Eggs of Chiff Chaff  
(*Phylloscopus trochilus*)
- 1 Nest and Eggs of Willow Wren  
(*Phylloscopus trochilus*)
- 1 Nest and Eggs of Black-headed  
Bunting (*Emberisa melan-  
ocephala*)

By Mr. G. R. Griffith—

- 4 Eggs House Sparrow (*Passer  
domesticus*)

By Miss C. Tomlin—

- 1 Redbreast (*Erithacus rebecca*)

By Mr. A. Fuller—

- 1 Abnormal Egg

## MAMMALIA (Animals.)

By Mr. G. J. Hill, Blundell Sands—  
Number of Specimens.

- 1 Great Bat (*Scotophilus noctule*)

By Mr. A. J. Nixon, Manley—

- 6 Great Bat (*Scotophilus noctule*)

By Mr. A. O. Walker—

- 1 Long-eared Bat (*Plecotus auritus*)

Mr. T. Myddleton—

Number of Specimens.

- 1 Shrew Mole or Water Shrew  
(*Sorex fodiens*)

By Mr. Lloyd Fletcher—

- 1 Albino Mole (*Talpa Europæa*)

By Rev. C. Wolley-Dod—

- 1 Red Bank-Vole (*A. glareolus*)

## GEOLOGY.

By Halkyn Mining Co., Limited,  
Halkyn—

- 13 of *Galena*  
7 „ *Chert*  
4 Encrinital Limestone  
6 Mountain Limestone containing  
*Producti*  
1 Mountain Limestone, Water-  
worn  
7 Quartz (various)

By Mr. E. Myddleton—

- 1 Large Quartz Crystal (Coal  
Measures?)  
2 *Sphenopteris* (sp.?), fine cast  
and impression.  
1 *Stalactite*

By Mr. A Rylands—

- 1 Molar (*Elephas primigineus*)  
Several fragments of Drift  
Shells

## MISCELLANEOUS.

By Mr. Thos Shephard—

- 1 Insufflator  
1 Human Skull  
2 Vertebra

By Mr. W. H. Okell—

- 2 Large Glass-top Boxes

By Mr. F. F. Brown—

- 392 Polished Blocks for Birds

By Mr. H. B. Dutton—

- Portion of Horn of the Red  
Deer

By Dicksons, Limited—

- 3 Young Forest Trees for rearing  
Insects upon

R. NEWSTEAD, F.E.S., CURATOR.

April 21st, 1890.



The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1890.

| Dr.                                             | £ s. d. | £ s. d. | Cr.                                                         | £ s. d. |    |    |
|-------------------------------------------------|---------|---------|-------------------------------------------------------------|---------|----|----|
| By Balance from 1888-89 ..                      | 18      | 3       | To Grosvenor Museum Management Fund ..                      | 60      | 0  | 0  |
| „ Subscriptions—                                |         |         | „ Library—New Books, &c. ..                                 | 0       | 14 | 0  |
| 1 for 1886-87, at 5/- ..                        | 0       | 5       | „ Natural History Museum ..                                 | 13      | 14 | 1  |
| 2 „ 1887-88, at 5/- ..                          | 0       | 10      | „ Printing, Advertising, Stationery, &c. ..                 | 50      | 12 | 6  |
| 16 „ 1888-89, at 5/- ..                         | 4       | 0       | „ Postages ..                                               | 15      | 10 | 0  |
| 546 „ 1889-90, at 5/- ..                        | 136     | 10      | „ Subscriptions—                                            |         |    |    |
|                                                 | 141     | 5       | Palaeontographical Society ..                               | 1       | 1  | 0  |
| „ Sale of Proceedings and Library Catalogues .. | 0       | 2       | National Footpaths Preservation Society ..                  | 0       | 10 | 6  |
|                                                 |         |         | „ Donation to Funds of International Geological Congress .. | 1       | 0  | 0  |
|                                                 |         |         | „ Balance on Evening Meetings Account..                     | 6       | 4  | 11 |
|                                                 |         |         | „ „ Excursion Account ..                                    | 1       | 2  | 0  |
|                                                 |         |         | „ „ Balance ..                                              | 9       | 1  | 1  |
|                                                 |         |         |                                                             | £159    | 10 | 1  |

30TH MAY, 1890—*Examined and found correct, shewing a balance in hand of Nine Pounds One Shilling and One Penny.*

JOHN MILLS,  
HON. TREASURER.

J. ROWE DUTTON; }  
BERESFORD ADAMS, }  
HON. AUDITORS.

# **"KINGSLEY MEMORIAL" FUND.**

**STATEMENT OF ACCOUNT for the Year ended 30th April, 1890.**

| Dr.                       |       | £ s. d.  | Cr.                                                              | £ s. d.             |
|---------------------------|-------|----------|------------------------------------------------------------------|---------------------|
| To Balance                | .. .. | 40 8 0   | By Payments at the Conversazione of the Natural Science Society— |                     |
| " Great Western Dividends | .. .. | 19 14 11 | Mr. R. R. Newstead, Grant                                        | .. .. 15 0 0        |
| " Bankers' Interest       | .. .. | 0 11 2   | Miss Tomlin, Prize Fund, <i>re</i> Collection—                   |                     |
|                           |       |          | Entomological                                                    | .. .. 5 0 0         |
|                           |       |          | Mr. Sharp, ditto                                                 | ditto .. 5 0 0      |
|                           |       |          | Mr. Nixon, ditto                                                 | Local Records 2 2 0 |
|                           |       |          | Miss Siddall ditto                                               | Lichens, &c. 1 1 0  |
|                           |       |          | Miss Broadbent ditto                                             | ditto 1 1 0         |
|                           |       |          | " Mr. W. Pritchard, Lettering, &c.                               | .. .. 1 1 0         |
|                           |       |          | " Mr. Siddall, Engraving Medal                                   | .. .. 0 1 6         |
|                           |       |          | Balance                                                          | .. .. 40 7 7        |
|                           |       |          |                                                                  | <u>£60 14 1</u>     |

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EDMUND J. BAILLIE,  
HON. TREASURER.

16TH APRIL, 1890—*Examined and found correct,*  
W. VINCENT,  
AUDITOR.

## PHOTOGRAPHIC SECTION.

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### REPORT.

IN presenting their second Report, the Committee desire to acknowledge the valuable services rendered to the Section by MR. GEO. FRATER, and to express their regret that his removal from Chester caused his resignation of the Honorary Secretaryship, in which office he contributed much to any measure of success which may have attended the formation of a Section devoted to Photography.

The Committee feel that there is room for increased interest in the work of the Section, and would be pleased to see the Meetings (especially when technical subjects are treated of) more numerous attended, the Dark Room more frequently used, and the Members availing themselves of the photographic journals and books placed in the library—determination to excel on the part of individual Members being the only guarantee of real progress in the Section.

It is hoped that the Meetings of the Photographic Convention, to be held in Chester during the last week of June, may be the means of interesting large numbers in Photography and lead to an increased membership, by inducing many to take up a pursuit which, if loyally followed, cultivates the artistic and scientific perceptions of those who engage in it. There are many ways in which the Photographic Section may be a help to the Society of which it forms a part, and, through that Society, add its mite to the sum of human knowledge,—notably by obtaining negatives of Geological Formations, abnormal conditions in the Animal and Vegetable Kingdoms, and recording facts in Microscopical Research. All these are possibilities to the devoted photographer, in addition to the pleasure which may be given to thousands by reproducing the beauty and grandeur of natural scenery.



The Committee recognize, with thanks, the kindness of the gentlemen who contributed, by reading Papers, &c., to the success of the undermentioned Meetings:—

1889.

Dec. 9.—“Illustrated Boston,” by THE BOSTON CAMERA CLUB, U.S.A.,  
and Exhibition of “Amateur Photographer” Competitive  
Prints, Animal Life, and Inland Scenery.

1890.

Jan. 2.—Exhibition of Lantern Slides, &c., by MEMBERS OF THE SECTION.

„ 27.—“Old Normandy,” by MR. G. E. THOMPSON.

Mar. 15.—“The Land of the Midnight Sun,” by MR. G. F. WYNNE.

Apr. 21.—“A New Actinometer,” by MR. E. G. BALLARD, A.R.S.M.



# PHOTOGRAPHIC SECTION.

## BALANCE SHEET TO 31st MARCH, 1890.

| RECEIPTS.                                    |                 | PAYMENTS.                                      |                 |
|----------------------------------------------|-----------------|------------------------------------------------|-----------------|
|                                              | £ s. d.         |                                                | £ s. d.         |
| To Balance from Mr. Geo. Frater ..           | .. 0 14 10      | By Mr. Thompson for Lecture "Old Normandy" ... | 2 2 0           |
| " Subscriptions ..                           | .. 2 10 0       | " Circulars and Tickets for the same ..        | 0 12 6          |
| " Tickets sold for Mr. Thompson's Lecture .. | .. 3 15 0       | " Mr. Jones (a gratuity) ..                    | 1 0 0           |
|                                              |                 | " Photographic Papers ..                       | 0 10 10         |
|                                              |                 | " Postages ..                                  | 0 4 7           |
|                                              |                 | " Carriage ..                                  | 0 4 7           |
|                                              |                 | Balance ..                                     | 2 5 4           |
|                                              | <u>£6 19 10</u> |                                                | <u>£6 19 10</u> |

*Balance in hands of the Treasurer, Two Pounds Five Shillings and Fourpence.*

*Examined and found correct,*

J. ROWE DUTTON.

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers:—

### 1890.

- A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prizes, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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*\*\* All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors should obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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The Prizes will be awarded at the Annual Conversazione.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

- 
- Academia Nacional de Ciencias De La Republica,  
 Argentina, Cordoba.  
 Barrow Naturalists' Field Club.  
 Brighton and Sussex Natural History Society.  
 Bristol Naturalists' Society.  
 British Museum (Natural History), Cromwell Road,  
 London, S.W.  
 Burnley Literary and Scientific Club.  
 Cardiff Naturalists' Society.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society  
 and Field Club.  
 Epping Forest and County of Essex Naturalists' Field Club.  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 La Société d'Histoire Naturelle de St. Wladimir á Kiew,  
 Russie.  
 Leeds Naturalists' Club.  
 Liverpool Geological Society.  
 Liverpool Geological Association.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club.  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Microscopical Society.  
 Manchester Scientific Students' Association.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæo-  
 logical Society.  
 Nottingham Naturalists' Society.  
 Postal Microscopical Society.  
 Quekett Microscopical Society.  
 Rochdale Field Naturalists' Society.  
 Smithsonian Institution, Washington, D.C.  
 United States Geological Survey.  
 Vienna Natural History Museum.  
 Wigan Literary and Scientific Society.

## HONORARY MEMBERS.


*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


|                                                                 |                                                          |
|-----------------------------------------------------------------|----------------------------------------------------------|
| Archer, Frank, Esq., B.A.                                       | 14 Cook Street, Liverpool                                |
| Brady, H. Bowman, Esq., F.R.S., F.L.S.,<br>F.G.S.               | Hillfield, Gateshead                                     |
| Carruthers, W., Esq., F.R.S., F.G.S.                            | The British Museum, South Kensington, London, S.W.       |
| *Dawkins, W. Boyd, Esq., M.A., F.R.S.,<br>F.G.S., F.S.A.        | Woodhurst, Wilmslow rd., Fallowfield, Manchester.        |
| De Tabley, The Right Hon. Lord                                  | 62 Elm Park road, Chelsea, London, S.W.                  |
| *Hicks, H., Esq., M.D., F.R.S., F.G.S.                          | Hendon Grove, Hendon, London N.W.                        |
| *Higgins, Rev. H. H., M.A.                                      | 29 Falkner Square, Liverpool                             |
| Hooker, Sir J. D., F.R.S.                                       | Royal Gardens, Kew, London, W.                           |
| *Hughes, Prof. T. McKenny, M.A., F.R.S.,<br>F.S.A., F.G.S., &c. | Trinity College, Cambridge                               |
| Hunt, T. Sterry, M.A., LL.D. F.R.S.                             | Montreal, Canada                                         |
| Huxley, Prof. T. H., LL.D. F.R.S. PH.D.,<br>F.L.S., F.G.S.      | 4 Marlborough Place, London, N.W.                        |
| *Judd, Prof. J. W., F.R.S.                                      | Science Schools, South Kensington London, S.W.           |
| Kingsley, Mrs.                                                  | Tachbrook Mallory, Leamington                            |
| *Lubbock, Sir John, Bart., M.P., F.R.S.,<br>&c.                 | High Elms, Beckenham, Kent.                              |
| *Mackintosh, D., Esq., F.G.S.                                   | 32 Glover Street, Borough road, Birkenhead               |
| *Morton, G. H., Esq., F.G.S.                                    | 209 Edge Lane, Liverpool, E.                             |
| Norman, Rev. A. M., M.A., D.C.L., F.L.S.                        | Fence House, Durham                                      |
| *Rae, E., Esq., F.S.A.                                          | Court Lodge, Birkenhead                                  |
| Renard, The Abbé                                                | Curator of the Royal Museum of Natural History, Brussels |
| *Rudler, F. W., Esq., F.G.S.                                    | Museum of Practical Geology, Jermyn street, London, S.W. |
| Tyndall, Prof. J., D.C.L., LL.D., F.R.S.                        | Hind Head House, Haslemere                               |
| Villanova-y-Piera,                                              | Professor of Geology in the University of Madrid         |
| *Vize, Rev. J. E., M.A.                                         | Rector of Forden, Welshpool                              |

## CORRESPONDING MEMBERS.

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Askew, Mr. Jas. H.                    | Hilbre Island                            |
| Griffith, Mr. J. E., F.L.S., F.R.A.S. | Vronheulog, Upper Bangor, N.W.           |
| Joachim, Mr. Geo.                     | Dunedin, Otago, New Zealand              |
| Leather, Mr. F. S.                    | New Zealand                              |
| Nixon, Mr. A. J.                      | National School, Manley, Cheshire        |
| *Reade, Mr. Oswald A.                 | Royal Naval Hospital, Gt. Yarmouth       |
| *Rowston, Mr. R.                      | Kingsley Alton, Hants                    |
| *Ruddy, Mr. Thos.                     | Palé, Corwen                             |
| *Thomas, Dr. H.                       | The Hydropathic Establishment, Llandudno |
| Tomlin, Mr. J. R. Le B., B.A.         | 59 Liverpool Road                        |
| Walker, Mr. Fred                      | Heywood, Tenby                           |
| Wynne, Mrs. Lloyd                     | Cocd Coch, Abergele                      |
| *Wilkins, Mr. T. S.                   | Uttoweter                                |
| Williams, Mr. G. J., F.G.S.           | Higher Grade School, Blaenau Festiniog   |

## NOTICE.

 *THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN MILLS, Chemist, Eastgate Row.*

 *To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.*

## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| Acheson, Rev. Canon, M.A. ....   | 5 Abbey street                             |
| Acheson, Mr. Maurice.....        | "                                          |
| Acheson, Mr. Guy H. ....         | "                                          |
| *Acton, Mr. T. Bennion .....     | Grove road, Wrexham                        |
| Adams, Mr. Beresford .....       | 24 Chichester street                       |
| Adams, Mr. Geo. F. ....          | Brighton villa, Saughall road              |
| Ambrosioni, Mr. F. A.....        | White Friars House                         |
| Appleton, Mr. John.....          | 9 Lorne street                             |
| Archer, Mr. W. E. ....           | Phillip street, Hoole                      |
| *Arkle, Mr. J. ....              | Diocesan Schools, George street            |
| Audsley, Mr. Geo. C. ....        | 3 Eastern Pathway, Queen's park            |
| Avery, Mr. John .....            | 4 Bouverie street                          |
| Ayrton, Mrs. ....                | Abbot's Rock, 33 Liverpool road            |
| Ayrton, Mr. Alfred G.....        | " " "                                      |
| Bailey, Mr. H. Grant .....       | Crypt Chambers                             |
| *Baillie, Mr. E. J., F.L.S. .... | Woodbine, Upton park                       |
| Baillie, Mrs. E. J.....          | " "                                        |
| Bairstow, Mr. J. ....            | 32 Sealand road                            |
| Baker, Mrs. ....                 | 24 Frodsham street                         |
| Baker, Mr. W. H. ....            | "                                          |
| Baker, Mr. J. R. ....            | 48 Bridge street                           |
| Baker, Miss .....                | "                                          |
| *Ballard, Mr. E. G., A.R.S.M ..  | 1 Eversley park                            |
| Ballard, Mrs.....                | "                                          |
| Barber, Mr. G. E. ....           | S. Bridget's Rectory                       |
| Barber, Mr. John .....           | 13 Bold square                             |
| Barker, Mr. A. ....              | 6 Abbey street                             |
| Barlow, Miss M. ....             | Coed Pella, Colwyn Bay                     |
| Barnacle, Rev. H. G. ....        | The Vicarage, Holmes Chapel, Crewe, R.S.O. |
| Barnes, Rev. F., B.A.....        | Hope villa, Raymond street                 |
| Barnett, Mr. Thos. B.....        | Old Bank                                   |



- Clough, Mr. G. F. .... 2 Hough Green  
 Clough, Mrs. G. F. .... " "  
 Cochrane, Mr. J. G. .... 7 Upper Northgate street  
 Cockrill, Mr. C. P. .... Chester road, Saltney  
 Coe, Mr. D. .... 26 Lightfoot street, Bishopsfield  
 Coe, Mr. Henry J. .... 4 Bold terrace  
 Collinge, Mr. James. .... Kinnerton Lodge, Chester  
 Comber, Mrs. E. .... Holly Bank, Christleton  
 Connah, Mr. Jas. .... The Laboratory, Somerset House, London, W.C.  
 \*Connor, Mr. Rochfort, F.L.S. ... 9 Haddington terrace, Kingstown, Dublin  
 Coppack, Mr. Chas. .... Derby Cottage, 107 Garden lane  
 Cordery, Mr. J. .... 7 Liverpool road  
 Cordery, Miss C. .... 79 Boughton  
 \*Cowan, Mr. E. W., A.M.I.C.E. ... 18 Lorne street  
 \*Cowap, Mr. C. R. .... 22a Cambrian view  
 Cummings, Miss .... King's buildings  
  
 Dale, Mrs. .... 51, Bridge street row  
 Darby, Very Rev. J. L., D.D. ... The Deanery  
 Davey, Mr. .... 3 Brighton terrace  
 Davey, Mrs. .... " "  
 Davies-Colley, Mr. T., M.D., J.P. ... Newton Cottage, near Chester  
 Davies-Colley, Mrs. .... " " "  
 Davies-Colley, Miss E. C. .... " " "  
 Davies, Miss Henrietta .... 69 Boughton  
 Davies, Mr. E. Henry .... 19 Francis street  
 Davies, Mr. Joseph .... " "  
 Davies, Mr. John .... Parr's Banking Co., Chester  
 Davies, Mr. J. P. .... 75 Crane street  
 Davies, Mr. James .... 20, St. Anne's place  
 Day, Mr. C. J. .... Rowton, Chester  
 Day, Mr. John .... 39 Cambrian view  
 Denson, Mr. W. .... 21 Upper Northgate street  
 Denson, Mrs. W. .... " " "  
 Denson, Miss Adelaide .... " " "  
 Denson, Mr. J. Lyon .... " " "  
 Dickson, Mr. Geo. A., J.P. .... Springfield, Flookersbrook  
 Dickson, Mrs. Geo. A. .... " "  
 Dickson, Miss Lavinia .... " "  
 Dickson, Mr. Jas. .... Brookfield House, Chester  
 Dickson, Mr. W. A. .... Newton Villa, Chester  
 Dickson, Mr. S. J. R. .... Mayfield House, Hoole  
 \*Dobie, Mr. W. M., M.D. .... 23 Upper Northgate street  
 Dobie, Miss .... " " "  
 Dobie, Miss M. J. .... " "  
 \*Dobie, Mr. W. H., M.B. .... 22 Upper Northgate street  
 Dod, Rev. C. Wolley, M.A., J.P. ... Edge Hall, Malpas, Chester  
 Dod, Miss Wolley .... " " "  
 Dodd, Mr. W. .... 143 St. Anne street  
 Duckworth, Mr. Henry .... Christ Church Vicarage  
 Dugdale, Mr. John .... Spital field, Boughton  
 Dutton, Mr. J. Rowe .... 6 Stanley place  
 Dutton, Mrs. J. Rowe .... " "  
 Dutton, Mr. George .... Curzon House  
 Dutton, Mrs. .... " "  
 Dutton, Mrs. G. W. .... 15 Curzon park  
 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 \*Dutton, Mr. F. V. .... 2 Victoria Pathway, Queen's Park  
 Dutton, Mr. Chas., J.P. .... Queen's park



|                                       |                                     |
|---------------------------------------|-------------------------------------|
| *Edwards, Mr. J. W. P.                | 133 Boughton                        |
| Edwards, Mrs. J. W. P.                | "                                   |
| Edwards, Mr. J. E., J.P.              | Abbot's Mount, Liverpool road       |
| Edwards, Mr. J.                       | 74 Foregate street                  |
| Elliott, Mr. John, M.D., B.S., B.Sc.  | White Friars Cottage                |
| Elliott, Miss                         | "                                   |
| Enock, Mr. C. R.                      | 47 Parkgate road                    |
| Enock, Mrs. C. R.                     | "                                   |
| Evans-Lloyd, Col., J.P.               | Stanley House                       |
| *Evans, Mr. F.                        | The Eastgate                        |
| Evans, Miss                           | Eversley House, Eversley park       |
| Evans, Rev. T. J., M.A.               | Hargrave Rectory, near Chester      |
| Ewen, Mr. I. E.                       | 26 Hough green                      |
| Ewen, Miss                            | "                                   |
| Ewing, Mr. C. A.                      | 3 Brookside villas, Flookersbrook   |
| Ewing, Miss                           | Golden Grove, Hoole road            |
| Farmer, Mr. Richard                   | Brierley, Brook lane                |
| Farrimond, Mr. F. T.                  | Sunnyside, Boughton                 |
| *Fawcus, Mr. W. P. J., C.E.           | Cleveland, Charlton Drive, Sale     |
| Feilden, Miss                         | Mollington Hall, Chester            |
| *Feltoe, Rev. C. L., M.A.             | The King's School                   |
| Ffoulkes, His Honor Judge Wynne, M.A. | Upper Northgate street              |
| Ffoulkes, Mr. Thomas B., Junr.        | 8 Burlington road, Ipswich          |
| Finchett, Mr. W. H.                   | The Savings' Bank, Grosvenor street |
| Firth, Mr. N. C.                      | 125 Foregate street                 |
| Fish, Mrs.                            | Arnold House, Parkgate road         |
| *Fish, Rev. A. H., B.A., B.Sc.        | "                                   |
| Fleet, Mr. H.                         | 76 Lower Bridge street              |
| *Fletcher, Mr. P. H.                  | Woodbrae, Curzon park               |
| Fletcher, Miss                        | "                                   |
| Fletcher, Miss Eva B.                 | 18 Upper Northgate street           |
| Fluitt, Miss                          | Grey friars                         |
| Fluitt, Miss F. C.                    | "                                   |
| Fox, Mr. Francis, C.E.                | Mount Alyn, Rossett                 |
| Francis, Mr. F. E.                    | 8 Alexandra terrace, Hoole road     |
| Frater, Mr. G.                        | The Bank, Wrexham                   |
| Frater, Mr. Jas.                      | 3 Lorne street                      |
| Frater, Miss                          | 12 Stanley place                    |
| Freeman, Mr. C. E.                    | 16 Lorne street                     |
| Frith, Mr. Philip J.                  | 21 Tarvin road                      |
| Frith, Mr. Jas. N.                    | "                                   |
| Fromont, Mr. W. H.                    | 15 Tarvin road                      |
| Frost, Sir Thomas G., J.P.            | Redcliffe, Queen's park             |
| Frost, Lady                           | "                                   |
| Frost, Mr. J. M.                      | Dee Lodge                           |
| Frost, Mr. T. Gibbons                 | 2 Richmond place                    |
| Frost, Mrs. T. Gibbons                | "                                   |
| Gane, Miss                            | Seafeld House, Cambrian View        |
| Gardner, Mrs. W. A.                   | Redland House, Hough green          |
| Gardner, Miss Constance               | "                                   |
| Gardner, Miss Ethel                   | "                                   |
| Gardner, Miss Mabel                   | "                                   |
| Gardner, Mr. Stanley                  | "                                   |
| Gardner, Mr. E.                       | 3 Lumley road, Liverpool road       |
| Gardner, Mr. Jas.                     | Tattenhall                          |
| Garnett, Mr. W.                       | Bridge street row                   |

|                                           |       |                                     |
|-------------------------------------------|-------|-------------------------------------|
| Garnett, Mrs.                             | ..... | The Rectory, Christleton            |
| Garside, Mr. F.                           | ..... | Hamilton street, Hoole              |
| Gibson, Mr. J. M.                         | ..... | Buckley, <i>via</i> Chester         |
| Gibson, Miss Ada                          | ..... | Crane street                        |
| Gilbert, Mr. Leonard, J.P.                | ..... | Egerton villa, Liverpool road       |
| *Giles, Rev. W. T., M.A., F.R.G.S.        | ..... | The Asylum, Chester                 |
| Glascodyne, Miss                          | ..... | The Queen's School, City walls      |
| Golder, Mr. S.                            | ..... | 31 Nicholas street                  |
| Goodhart, Mrs. E. S.                      | ..... | 96 Watergate Flags                  |
| Gorst, Miss                               | ..... | Spring villa, Liverpool road        |
| *Granger, Mr. F. M., M.R.C.S., L.R.C.P.L. | ..... | 18 Nicholas street                  |
| Grantham, Rev. H.                         | ..... | S. Mary's Rectory                   |
| Green, Mr. T. E.                          | ..... | Parr's Banking Co., Wrexham         |
| Gregg, Mr. W.                             | ..... | 2 Watergate square                  |
| Griffith, Mr. G. R.                       | ..... | 30 Hough green                      |
| Griffith, Mrs. G. R.                      | ..... | " "                                 |
| Griffith, Miss                            | ..... | " "                                 |
| Griffith, Mr. N. de B.                    | ..... | " "                                 |
| Griffiths, Mr. Jno.                       | ..... | Upton park                          |
| Griffiths, Mrs. John                      | ..... | " "                                 |
| Griffiths, Mr. T. W.                      | ..... | 5 Hough green                       |
| Griffiths, Miss                           | ..... | 42 Watergate street                 |
| Griffiths, Mr. John                       | ..... | " "                                 |
| *Griffiths, Rev. T. Turner, M.A.          | ..... | Derby villa. Clifton Wood, Bristol  |
| *Grocott, Mr. E. A.                       | ..... | Frodsham street                     |
| Gunton, Miss                              | ..... | Rimmersfield, Liverpool road        |
|                                           |       |                                     |
| Haining, Mr. W., M.D.                     | ..... | 82 Foregate street                  |
| *Hall, Mr. J. H. A.                       | ..... | Old Bank House                      |
| Hall, Mrs.                                | ..... | " "                                 |
| Hall, Miss Cecile                         | ..... | " "                                 |
| Hamel, Miss                               | ..... | 9 Abbey street                      |
| Hamilton, Mr. A., M.R.C.S.                | ..... | 16 White friars                     |
| Hankey, Mr. Lee                           | ..... | Rock Mount, Liverpool road          |
| Hankey, Miss C. M.                        | ..... | " "                                 |
| Hanningan, Mr. Jno.                       | ..... | Sunny Bank, Queen's park            |
| Hardy, Mr. J. E.                          | ..... | The Blue Coat School, The Northgate |
| Hardy, Mrs.                               | ..... | " "                                 |
| Harrison, Miss                            | ..... | 20 Lorne street                     |
| Harrison, Mrs. Jno.                       | ..... | Ashton House, New Crane street      |
| Harrison, Mr. N.                          | ..... | Highfield, Curzon park              |
| Harrison, Mrs. N.                         | ..... | " "                                 |
| Haswell, Mr. G. H.                        | ..... | 41 Liverpool road                   |
| Haswell, Mrs. G. H.                       | ..... | " "                                 |
| Henderson, Mr. J. E.                      | ..... | 19 Pathway, Queen's park            |
| Henderson, Mr. Wm.                        | ..... | 11 Union walk                       |
| Henshaw, Mr. T.                           | ..... | The Hollies, Liverpool road         |
| Henshaw, Mr. T. A.                        | ..... | " "                                 |
| Henshaw, Miss Edith E.                    | ..... | " "                                 |
| Henshaw, Miss Florence M.                 | ..... | " "                                 |
| Henson, Miss E.                           | ..... | The Studio, Bridge street row       |
| Heppel, Miss                              | ..... | 8 Hough green                       |
| Herne, Colonel                            | ..... | Delamere House, Liverpool road      |
| Hewison, Mr. Hy. T.                       | ..... | White Friars House                  |
| Hewitt, Mr. David L.                      | ..... | Abbey House, Northgate street       |
| Hickman, Mr. F. F.                        | ..... | 8 Northgate street                  |
| Hickman, Miss                             | ..... | 17 The Groves                       |
| Higgins, Miss Eva                         | ..... | The Manor, Overleigh                |
| Higgins, Miss Millie                      | ..... | " "                                 |

|                                      |                                         |
|--------------------------------------|-----------------------------------------|
| Higgins, Mr. W. H. ....              | St. Martin's-in-the-fields              |
| Hignett, Mrs. ....                   | 14 Hough green                          |
| Hignett, Mr. A. H. ....              | " "                                     |
| Hignett Mrs. T. H. . . . .           | 18 Hough Green                          |
| Hillyard, Rev. Canon, M.A. ....      | Okeford, Bampton, N. Devon              |
| Hincks, Mr. J. W. ....               | 61 Northgate street                     |
| Hobday, Mr. J. ....                  | Alexandra villa, Liverpool road         |
| Hobday, Mr. E. ....                  | " "                                     |
| Hobday, Mr. Jas. ....                | 22 The Groves                           |
| *Hodges, Mr. W. ....                 | 31 Hough Green                          |
| Hodges, Miss A. G. ....              | " "                                     |
| Hodges, Mr. T. R. ....               | " "                                     |
| Hodkinson, Mr. E. ....               | 35 Pepper street                        |
| *Holland, Mr. R., F.L.S. ....        | Mill Bank House, Frodsham               |
| Holme, Rev. A. P., M.A. ....         | The Rectory, Tattenhall                 |
| Holmes, Mr. J. G. ....               | Belmont, Curzon park                    |
| Hoole, Rev. W. Spooner, M.A. ....    | Thornton Rectory, near Chester          |
| Hopkins, Mrs. ....                   | 32 Queen street                         |
| Horabin, Mr. T. ....                 | 16 Newgate street                       |
| Horton, Mr. H. R. ....               | 74 Brook street                         |
| Hostage, Mr. Geo. B. ....            | 28 Eaton road                           |
| Hostage, Mrs. Geo. B. ....           | " "                                     |
| Hostage, Miss ....                   | 22 Eaton road                           |
| Howson, Rev. J. F., M.A. ....        | Egerton House, Upper Northgate street   |
| Howson, Miss ....                    | " "                                     |
| Howson, Miss M. ....                 | " "                                     |
| Howson, Rev. G. J., M.A. ....        | The Vicarage, Crewe                     |
| Hudson, Mrs. R. S. ....              | Bache Hall, Chester                     |
| Hughes, Mrs. McKenny ....            | 4 Cintra terrace, Cambridge             |
| Hughes, Mr. Thos. Cann, B.A. ....    | Town Hall, Manchester                   |
| *Hughes, His Honour Judge, Q C. .... | Uffington House, Dee hills              |
| Hughes, Mrs. ....                    | " "                                     |
| Hughes, Mr. John ....                | City road                               |
| Huke, Mr. J. W. ....                 | 89 Foregate street                      |
| Humberston Miss ....                 | Newton Hall, Chester                    |
| Humphreys, Mr. E. Noel ....          | 8 Derby place, Hoole                    |
| Hurst, Mr. Jas. ....                 | South Bank, Frodsham                    |
| Hurst, Mrs. Jas. ....                | " "                                     |
| Jackson, Miss ....                   | 21 Hough green                          |
| Jacob, Rev. Joseph, M.A. ....        | Whitewell Rectory, Whitchurch (Salop)   |
| Jayne, Mr. Ernest. ....              | The Palace, Dee side                    |
| *Jebb, Mr. G. R., C.E. ....          | Fairfield, Great Barr, Birmingham       |
| *Jeffs, Mr. O. W., F.G.S. ....       | 12 Queen's road, Rock Ferry             |
| Jennings, Mr. Constantine ....       | The Studio, Bridge street               |
| Jennings, Mrs. ....                  | " "                                     |
| Jephcott, Mr. Charles ....           | 13 Lorne street (North)                 |
| Johnson, Major ....                  | 34 King street                          |
| Johnson, Mrs. ....                   | 11 Bertram road, Sefton park, Liverpool |
| Johnson, Mr. ....                    | St. Paul's School, Boughton             |
| *Johnson, Mr. M., L.D.S.I. ....      | 9 York villas, Lorne street             |
| Jones, Miss Maggie ....              | 1 King's buildings                      |
| Jones, Mr. H. Watson ....            | 11 Grosvenor park road                  |
| Jones, Miss S. H. ....               | Kingston house, Liverpool road          |
| Jones, Mr. A. W. ....                | 23 Seller street                        |
| Jones, Mrs. A. W. ....               | " "                                     |
| Jones, Miss ....                     | The Northgate                           |
| Jones, Mr. F. ....                   | 59 Bridge street row                    |

- Keartland, Miss ..... 2 Egerton terrace, Hoole road  
 Keeling, Miss Alice ..... Minworth, near Birmingham  
 Kelham, Mr. Augustus ..... 3 Eversley park, Liverpool road  
 Kelly, Miss E. J. .... 12 Trinity street  
 Kelsall, Miss A. H. .... Abbot's court, Liverpool road  
 Kemp, Mr. Geo. .... 59 Bridge street  
 Kenyon, Mr. G. A., M.B. .... Flookersbrook  
 King, Mr. H. W., M.D. .... 18 Newgate street  
 King, Mrs. ....  
 Kingsley, Miss ..... Tachbrook Mallory, Leamington  
 Kingsley, Mr. G. A. ....  
 Kinsey, Mr. T. E. Morris ..... Westminster buildings  
 Kirkpatrick, Mrs. .... Ash Grove  
 Knowles, Mr. E. R. .... Grosvenor street  
 Kynnersley, Mr. E. M. Sneyd .. 24 Castle street  
  
 Lacy, Mrs. .... Moor Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. A., Junr. ....  
 Lamont, Miss .....  
 Latham, Mr. J. S. .... Green Bank, Liverpool road  
 \*Lawrence, Dr. A. .... The Asylum, Chester  
 Lees, Mr. W., M.R.C.S. .... 116 Foregate street  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lightfoot, Mrs. W. M. .... York villas, Liverpool road  
 Linnell, Mr. Geo. F. .... The Old Bank, Chester  
 Lipsham, Mr. F. .... 17 Pepper street  
 Lloyd, His Honour Sir Horatio .. Stanley place  
 Lloyd, Lady .....  
 Lloyd, Mr. E. Honoratus ..... 32 Prince's square, Bayswater, London  
 Lloyd, Mrs. E. .... Abbot's mount, Liverpool road  
 Lloyd, Miss M. E. .... 20 Lorne street  
 Lockwood, Mr. T. M., F.R.I.B.A. .. 80 Foregate street  
 Lowe, Mr. G. B. .... 25 Hough green  
 Lowe, Miss C. H. ....  
 \*Lowe, Mr. W. F., A.R.S.M., { 21 Granville road, Cambrian view  
     F.I.C., F.C.S. }  
 Lowe, Mrs. W. F. ....  
 Lowe, Mr. Jas. F., B.A. .... Dee Banks  
 \*Lucas, Mr. A. W., F.R.G.S. .. 7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Luxmoore, Mr. E. B., J.P., F.G.S. .. Bryn-Asaph, St. Asaph  
 Lynch, Rev. F. .... Grosvenor park road  
  
 \*Macdonald, Mr. G. .... 3 Abbey square  
 Manley, Mr. H. .... Aston, Nantwich  
 \*Manning, Mr. J. B. .... The Governor's House, H.M. Prison,  
     Pentonville, London  
 Manning, Miss Edith ..... 18 Upper Northgate street  
 Mann, Mr. A., M.B. .... Pepper street  
 Marsden, Miss ..... 6 Grosvenor park road  
 Martin, Mr. E. .... Cheyney road  
 Mason, Mr. F. B. .... 3 Lorne street (North)  
 Massie, Admiral ..... 3 Stanley place  
 Massy, Miss ..... Mansfield lodge, Hough green  
 Mawdsley, Miss M. M. .... 8 Eaton road  
 Mawdsley, Miss J. G. ....  
 Mawdsley, Mr. W. H. ....

- McEwen, Mrs. .... 26 Nicholas street  
 McKindlay, Mr. Andrew .... Aldford, Chester  
 \*Mills, Mr. John ..... 4 Eastgate row  
 Mills, Mrs. John ..... " "  
 \*Miln, Mr. G. P. .... 27 Chichester street  
 Miln, Mrs. .... " "  
 Minshull, Mr. E. .... The "Northgate"  
 Minshull, Miss ..... " "  
 Montgomery, Rev. J. K. .... Abbot's villas, Liverpool road  
 Moreton, Mr. J. E., F.R.C.S. .. Tarvin  
 Moreton, Mrs. .... " "  
 \*Morris, The Rev. Canon, D.D. .... Eaton, Chester  
 Morris, Mr. Chas. .... 3 Sumpter pathway, Hoole  
 Morton, Mr. G. .... Dodleston, near Chester  
 Moses, Mr. H. C. .... 6 Northgate street  
 Morris, Miss M. .... Wilton House, Pepper street  
 Musgrave, Mrs. .... 45 White friars
- \*Newstead, Mr. R., F.E.S. .... The Grosvenor Museum  
 Nicholls, Mr. G. F. .... 12 Chichester street  
 Nicholls, Miss .. Deaconess House, Nicholas street  
 Nicholson, Mr. J. M. .... Little Sutton, Chester
- \*Okell, Mr. W. H. .... 1 Northgate street  
 \*Okell, Mr. E. W. .... 22 Northgate street  
 Okell, Mr. P. H. .... The Cross  
 Okell, Miss ..... 6 Curzon park  
 \*Okell, Miss M. H. .... " "  
 Okell, Miss J. .... " "  
 Okell, Miss A. .... " "  
 Oldfield, Mrs. .... 68 Northgate street  
 Oldfield, Miss ..... Bryn Clwyd, St. Asaph  
 Oldmeadow, Mr. Geo. E. .... 22 Lorne street  
 Orton, Mr. R. O., J.P. .... Tattenhall  
 Owen, Miss Bessie. .... Felsburg, Marmion road, Sefton park, Liverpool  
 Owen, Miss ..... 10 Stanley place
- Parkes, Mr. A. .... Bridge street row  
 Parkes, Mrs. A. .... " "  
 \*Parnell, Mr. E. W., F.C.S. .... Dee hills  
 Parry, Mrs. C. .... 24 Frodsham street  
 Parry, Mr. Gilbert. .... Farndon Hall, Chester  
 \*Parry Mr. T. S., M.B. .... 10 Upper Northgate street  
 Parry, Mr. Morris ..... 21 Victoria road  
 Partington, Mr. John T. .... Denbigh villas, Cheyney road  
 Payne, Miss ..... 4 Abbey green  
 Payne, Miss A. .... " "  
 Phillipson, Mr. J. .... 12 Liverpool road  
 Phillipson, Mr. H. G. .... " "  
 Pierson, Mr. F. A. .... @ Messrs. Potts & Roberts, Chester  
 Podmore, Miss ..... 3 Eastern pathway, Queen's park  
 Porter, Mrs. .... Crowthorne, Childer Thornton  
 Potts, Miss A. M. .... Heron bridge  
 Potts, Miss C. L. .... " "  
 Potts, Capt. H. J., J.P. .... Glanrafon, Mold  
 Powell, Mr. E. .... Eastgate row  
 Powell, Mrs. .... Springfield, Neston

- Powell, Mr. T. J. .... 14 Newgate street  
 Preston, Mr. F. M. .... Abbot's grange, Liverpool road  
 Price, Mr. Paul. .... Bryntirion, Chichester street  
 \*Price, Mr. Walmsley .... 26 Watergate row  
 Price, Mrs. Walmsley ..... " "  
 Prichard, Mr. Geo. .... 9 The Groves  
 Prichard, Miss ..... " "  
 Puget, Miss Louisa Du ..... Fernville, Curzon park  
 Pye, Mr. Jas. .... Clovelly House, Eversley park  
 \*Pye, Mr. T. E. .... Commercial Gas Co., Stepney, London, E.
- \*Ramsden, Mr. S. W. .... *Cheshire Observer*, Chester  
 Ransome, Rev. Maurice, B.A. .. Malpas  
 Rayner, Miss ..... Ash grove, Wrexham road  
 Ray, Miss ..... 3 Eastern pathway, Queen's park  
 Reade, Mr. Albert William .... 11 Lorne street  
 Reade, Mr. Walter ..... " "  
 Rhodes, Mrs. .... York villas, Liverpool road  
 Richardson, Mr. A. .... Bridge street row  
 Richmond, Mr. G. B. .... *Courant* Office, Northgate street  
 Ribton, Mrs. .... Golden grove, Hoole road  
 Roberts, Mr. J. .... 10 St. John's road, Queen's park  
 Roberts, Miss ..... Bank Cottage, Neston  
 Roberts, Miss M. .... 8 Nicholas street  
 Roberts, Mr. J., M.D. .... 8 Abbey square  
 Roberts, Mr. Hugh ..... Crypt Chambers  
 Roberts, Miss Johnson ..... 7 Lumley road, Liverpool road  
 Roberts, Mr. P. Lyddon, F.S.Sc., A.C.P. .. 1 Bold terrace  
 Robertson, Mr. F. W. .... 35 Queen street  
 Rogers, Mr. James ..... The Cross  
 Rogers, Mr. Jno. .... Watergate House  
 Rogers, Mr. W. .... " "  
 Rogerson, Mr. G. H. .... 4 Nicholas street  
 Rowland, Mr. J. .... The Warren, Bodfari, Trefnant, Denbighshire  
 Royle, Mrs. T. V. .... Queen's park  
 Royle, Mr. T. R. P. .... Hough Green House  
 Royle, Mrs. T. R. P. .... " "  
 Rushton, Mr. F. Lever ..... Thornton Grange, Gresford
- Sandbach, Mr. S. H., J.P. .... Cherry Hill, Malpas  
 \*Sandford, Mrs. .... Queen's School  
 Sant, Mr. T. .... Frodsham  
 Schröder, Mr. W. G. .... Queen's Park Farm  
 Scotland, Colonel ..... Eccleston Hill, Chester  
 Scott, Mr. John ..... 19 Chichester street  
 Segar, Mr. F., L.D.S.E. .... White Friars House  
 Selwood, Mr. T. .... Eaton Gardens, Chester  
 Sharpe, Mr. F. W. .... Abbey square  
 Sharp, Mr. W. E. .... Hallwood, Ledsham  
 \*Shepherd, Mr. T., F.R.M.S. .. Kingsley Lodge, Liverpool road  
 Shepherd, Miss ..... " " "  
 Shepherd, Miss Emma ..... " " "  
 Shepherd, Miss F. .... " " "  
 \*Shone, Mr. W., F.G.S. .... Upton park  
 Shone, Mrs. W. .... " "  
 Shrubsole, Mr. Alfred ..... Town Hall Square  
 \*Siddall, Mr. J. D. .... 19 Eaton road  
 Siddall, Mrs. .... " "



|                                        |                                 |
|----------------------------------------|---------------------------------|
| Thomson, Miss I. ....                  | Cambrian view                   |
| Thornthwaite, Miss E. M. ....          | @ Mrs. Hincks, Northgate street |
| Tilston, Miss. ....                    | 1 King's buildings              |
| Tinkler, Mr. G. ....                   | 45 Nicholas street              |
| Tomkinson, Mr. Jas., J.P. ....         | Willington Hall, Chester        |
| Tomlin, Mrs. ....                      | Thorpe villa, Liverpool road    |
| Tomlin, Miss Lilian Ethel ....         | " " "                           |
| Tomlin, Miss Edith Clarabel ....       | " " "                           |
| Townshend, Mr. C. W., J.P. ....        | Trevallyn, Wrexham              |
| Trelawny, Mr. H. D., J.P. ....         | Shotwick park, Chester          |
| Trelawny, The Hon. Mrs. ....           | " " "                           |
| Tyrer, Mrs. Alfred ....                | Plas Newton, Chester            |
| Vernon, Miss. ....                     | Bache Cottage, Chester          |
| *Vincent, Mr. W. ....                  | Brook lodge, Brook lane         |
| Vincent, Mrs. W. ....                  | " "                             |
| Wakefield, Mr. T. ....                 | 1 Parkgate road                 |
| Wakefield, Miss E. ....                | " "                             |
| *Walker, Mr. A. O., J.P., F.L.S. ....  | Nant-y-Glyn, Colwyn Bay         |
| Walker, Mrs. A. O. ....                | " "                             |
| Walker, Miss. ....                     | 12 Liverpool road               |
| Walley, Miss. ....                     | 13 Chichester street            |
| *Ward, Mr. J. C. ....                  | Hough green                     |
| Ward, Miss. ....                       | " "                             |
| *Waters, Mr. E., M.D., J.P. ....       | Nicholas street                 |
| Way, Mr. N. A. E. ....                 | 1 Stanley place                 |
| Weaver, Mr. W. M. ....                 | Westminster buildings           |
| *Webster, Mr. G. Watmough, F.C.S. .... | 5 Eversley park, Liverpool road |
| Webster, Mrs. ....                     | " " "                           |
| Webster, Mr. Sirrell M. ....           | " " "                           |
| Webster, Miss Amy B. ....              | 52 Watergate street             |
| Webster, Miss Janet. ....              | " "                             |
| Wells, Mr. E., Junr. ....              | Eccleston, Chester              |
| Whalley, Mr. Fred. H., P.A.S.I. ....   | 98 Church street, Birkenhead    |
| White, Miss E. ....                    | 5 Abbey street                  |
| Whiteley, Mr. F. ....                  | Helsby, Warrington              |
| Wilbraham, Miss E. ....                | 5 King's buildings              |
| Wilbraham, Miss F. ....                | " "                             |
| Wilcock, Mr. T. M. ....                | 26 Newgate street               |
| Wilkinson, Mr. R. ....                 | 17 Victoria road                |
| Williams, Mr. J. E. ....               | 61 Upper Northgate street       |
| Williams, Mr. C. R. ....               | The Mount, Waverton             |
| Williams, Mr. John. ....               | Aber Cottage, Saltney           |
| Williams, Rev. J. R., M.A. ....        | Pulford Rectory, Wrexham        |
| Williams, Miss. ....                   | 8 Hamilton street, Hoole        |
| Williams, Miss. ....                   | 31 Hough green                  |
| Williams, Mr. R. J. ....               | 6 Eaton road                    |
| Williams, Miss Aldersey. ....          | 96 Watergate Flags              |
| Wiseman, Mr. C. ....                   | The Poplars, Dee banks          |
| Wiseman, Mr. Henry. ....               | " "                             |
| Wood, Mr. R. Stewart. ....             | Eccleston                       |
| Wood, Mrs. ....                        | 28 Queen street                 |
| Wood, Miss. ....                       | " "                             |
| Woodfin, Miss. ....                    | 26 Lorne street                 |
| Wright, Mr. J. M. ....                 | Lake Vyrnwy, near Oswestry      |
| *Wynne, Mr. Geo. F. ....               | Plas Gwyn, Minera               |
| Yeadon, Mr. Thos. ....                 | 28 St. Anne street              |



*The following Books have been added to the Library since  
the last Annual Report was issued:*

### BOTANICAL SECTION.

- B 200 Braithwaite (R.) *The Sphagnaceæ or Peat-Mosses  
of Europe and North America* . . . . . 1880

### GEOLOGICAL SECTION.

- G Callaway (C.) *On the present state of the  
Archæan Controversy in Britain, 1889; On  
Secondary Minerals in the Crystalline Rocks  
of the Malvern Hills, 1889* . . . . .
- G *Journal of the Liverpool Geological Association,  
Vol. VIII.* . . . . . 1889
- G 131 *Proceedings of the Geologists' Association,  
Vol. XI., 5 Parts* . . . . . 1889-90
- G 95 *Proceedings of the Liverpool Geological Society,  
Part 1, Vol. VI.* . . . . . 1888-89
- G 152 *Seventh Annual Report of the United States  
Geological Survey, 1885-86 (Illustrated).* . . . . 1888
- G 116 *Transactions of the Manchester Geological  
Society, Vol. XX., Parts 8 to 17* . . . . . 1889-90
- G 85 *Vol. XLIII. of the Palæontographical Society,  
issued for the year 1889, containing—*  
     Jones and Hinde's *Cretaceous Entomostraca* (Supplement)  
     Hudleston's *Jurassic Gasteropoda*  
     Buckman's *Inferior Oolite Ammonites*  
     Whidborne's *Devonian Fauna of the South of England*

### MICROSCOPICAL SECTION.

- M *Journal of the Liverpool Microscopical Society,  
Vol. I., No. 3* . . . . . 1890
- M *Transactions and Annual Report of the Man-  
chester Microscopical Society for 1888 and  
1889* . . . . . 1889-90

### PHOTOGRAPHIC SECTION.

- P 22 Emerson (P. H.) *Pictures of East Anglian Life.  
Presented by the Author* . . . . . 1888

## ZOOLOGICAL SECTION.

- Z Poulton (E. B.) An enquiry into the cause and extent of a special colour—relation between certain exposed Lepidopterous Pupæ and Surfaces which immediately surround them; Abstract of same; Notes upon, or suggested by, the colours, markings, and protective attitudes of certain Lepidopterous Larvæ and Pupæ, and of a Phytophagous Hymenopterous Larvæ; The essential nature of the colouring of Phytophagous Larvæ (and their Pupæ), with an account of experiments upon the relation between the colour of such Larvæ and that of their food plants; On the protective value of colour and markings in Insects; Theories of Heredity; Notes upon Lepidopterous Larvæ; Mimicry; A further enquiry into a special colour—relation between the Larvæ of *Smerinthus Ocellatus* and its Food Plants; Notes upon Lepidopterous Larvæ, &c., including a complete account of the life-history of the Larvæ of *Sphinx*, *Convolvuli*, and *Agliatau*; Further notes upon the markings and attitudes of Lepidopterous Larvæ, together with a complete account of the life-history of *Sphinx*, *Ligustri*, and *Selenia illunaria* (Larvæ); Notes in 1885 upon Lepidopterous Larvæ and Pupæ, &c.; True Teeth in the young *Ornithorhynchus paradoxus*; On the Tongues of the *Marsupialia*; The Structures connected with the Ovarian Ovum of *Marsupialia* and *Monotremata*; The True Teeth and Horny Plates of *Ornithorhynchus*. *Presented by the Author.*
- Z Second Report on the Fauna of Liverpool Bay and neighbouring Seas (L. M. B. C. Reports, No. 11.) *Presented by A. O. Walker, Esq.* .... 1889

## MISCELLANEOUS SECTION.

- X *Annalen des K.K. Naturhistorischen Hofmuseums*, Vienna, Bend IV., No. 4 ..... 1889
- X Annual Report and Proceedings of the Liverpool Science Students' Association, Session 1888-89
- X 99 Annual Report and Transactions of the North Staffordshire Naturalists' Field Club and Archæological Society, 1889 .....

- X 107 Annual Report of the Board of Regents of the Smithsonian Institution, 1886, Part 1 ..... 1889
- X Argument on the question of the validity of the Treaty of Limits between Costa Rica and Nicaragua, on behalf of the Government of Costa Rica, 1887; Reply to the argument of Nicaragua, 1887; The case of the Republic of Nicaragua..... 1887
- X *Bericht des Vereines für Naturkunde Zu Kassel, XXXIV. und XXXV.* ..... 1889
- X *Boletin de la Academia Nacional de Ciencias en Cordoba* (Argentine Republic), 1 Part ..... 1889
- X Journal of the Trenton Natural History Society (U.S.A.), Vol. II., No. 1 ..... 1889
- X Kinch (E.) Field Experiments, Barley and Pasture (Royal Agricultural College) .....
- X *Memoires de la Société des Naturalistes de Kiew* (Russia) 2 Parts ..... 1889
- X North American Fauna, Nos. 1 and 2 (U.S. Department of Agriculture) ..... 1889
- X 27 Proceedings and Transactions of the Natural History Society of Glasgow, Vol. II., Part 2, Vol. III., Part 1 ..... 1889-90
- X 25 Proceedings of the Bristol Naturalists' Society, Vol. VI., Part 1 ..... 1888-89
- X 24 Proceedings of the Literary and Philosophical Society of Liverpool, Vols. XLI., XLII., and XLIII ..... 1887-89
- X 26 Proceedings of the Liverpool Naturalists' Field Club for 1889 ..... 1890
- X 29 Report and Proceedings of the Manchester Field Naturalists' and Archæologists' Society for 1888 ..... 1889
- X Report and Transactions of the Cardiff Naturalists' Society, 2 Parts ..... 1889-90
- X Report of the British Association for 1889..... 1890
- X The English Sparrow in North America, especially in its relations to Agriculture (U.S. Department of Agriculture)..... 1889
- "The Naturalist," the Monthly Parts of

28 JUL. 90



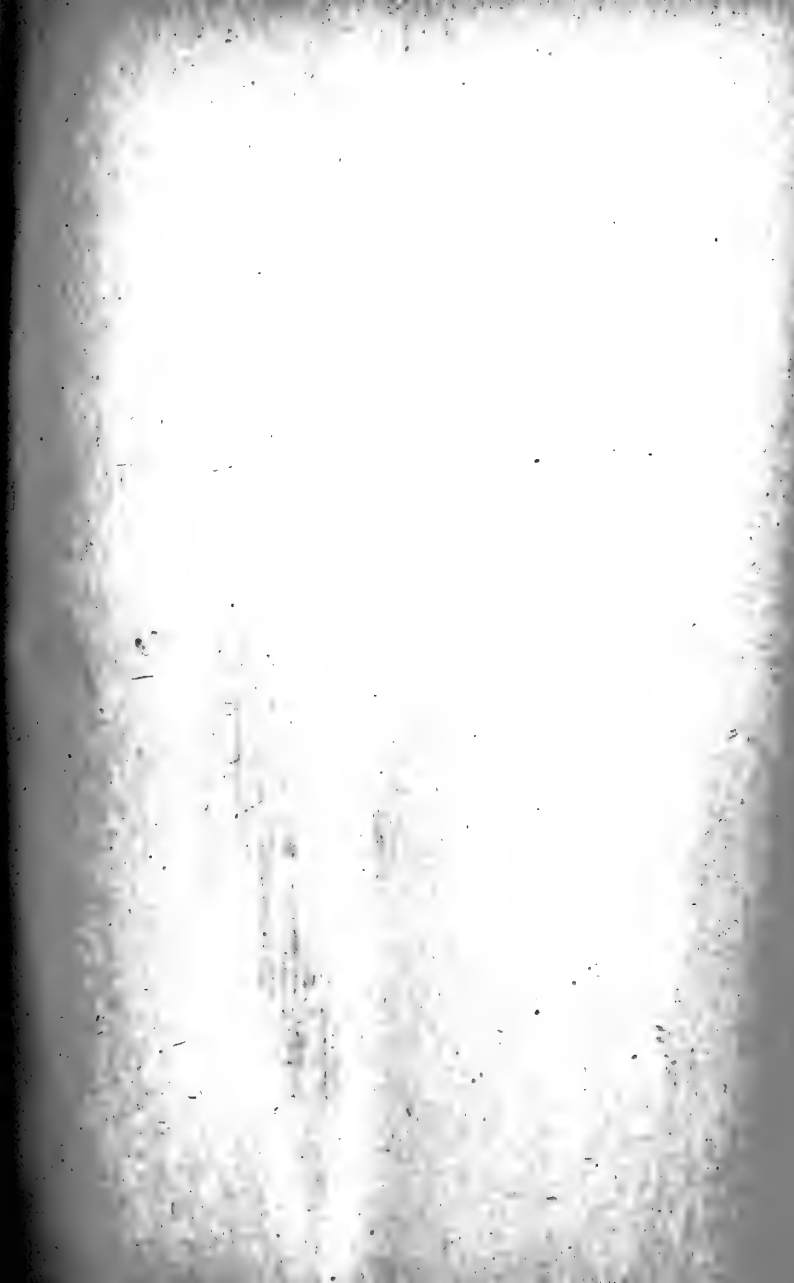
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Is open to the Members, and Books may be obtained on the following days :—

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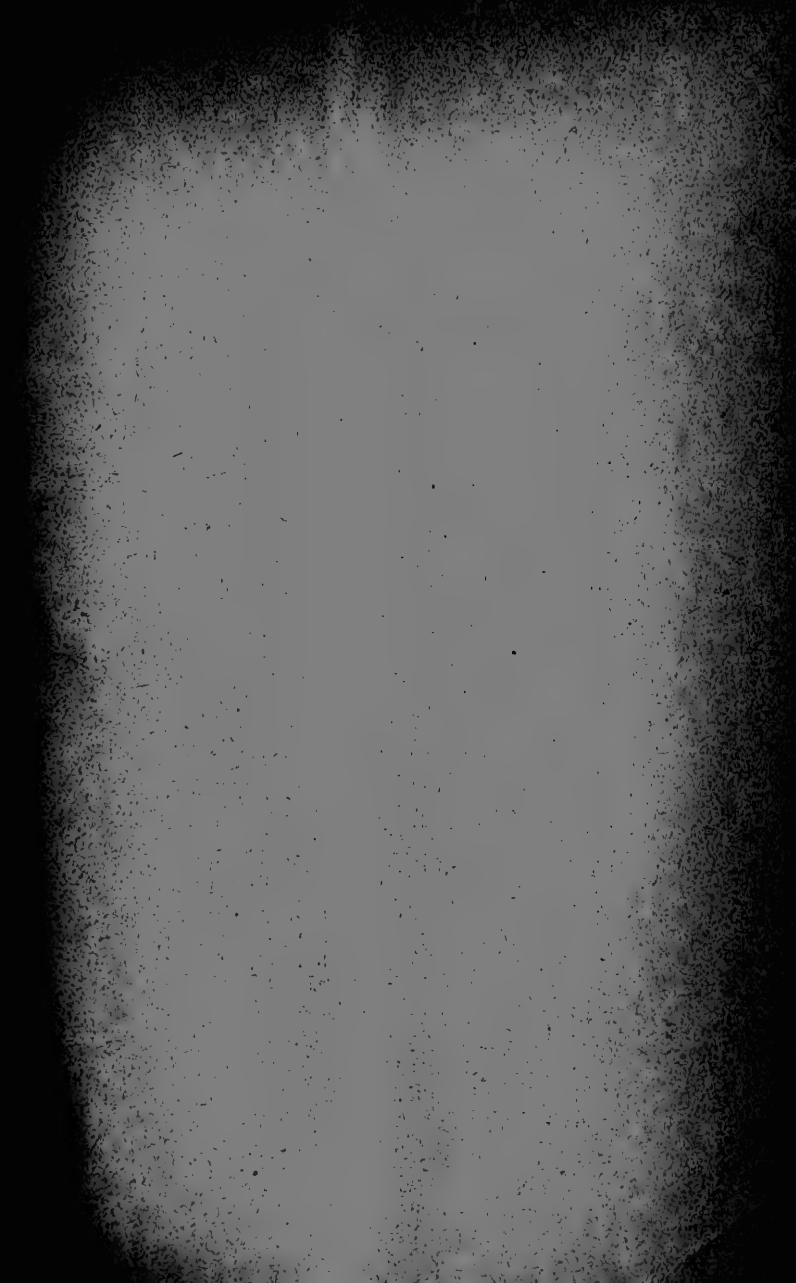
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CHESTER

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26 AUG. 91

CHESTER  
Society of Natural Science & Literature.

*(Founded by Charles Kingsley, 1871.)*

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TWENTIETH  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS,  
FOR THE YEAR 1890-91.



CHESTER :

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCXCI.



CHESTER  
Society of Natural Science & Literature,  
(Founded by Charles Kingsley, 1871.)

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TWENTIETH ANNUAL REPORT

AND

*STATEMENT OF ACCOUNTS for 1890-91,*

AND THE

**LIST OF MEMBERS FOR 1891-92,**

ALSO

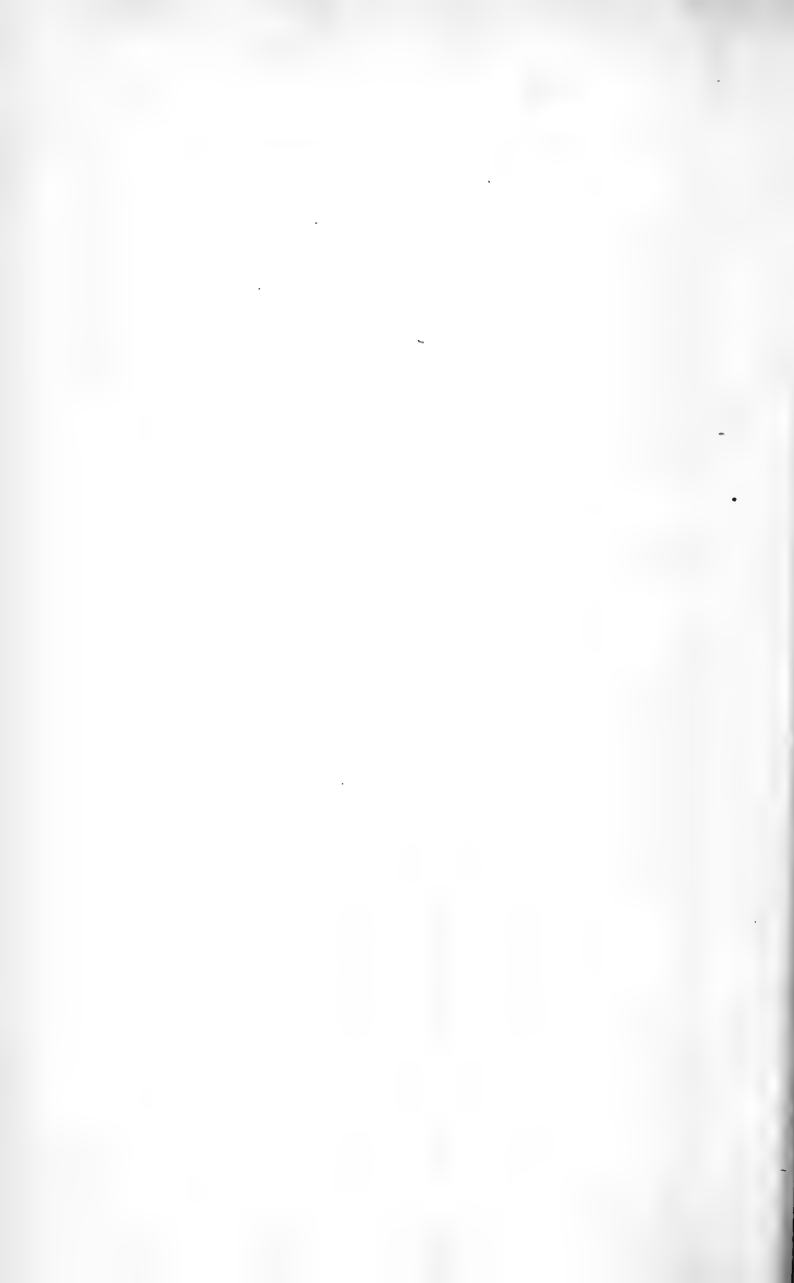
A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION, &c.



CHESTER:

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MR. BERESFORD ADAMS.

## Curator :

MR. R. NEWSTEAD, F.E.S., *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its object be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in the Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting, which will be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

---

YOUR Committee, in presenting their Annual Report, have satisfaction in stating that the Society numbers 683 Members. We have lost by death and removal 41. Amongst these we mention with regret the death of our Honorary Member, H. BOWMAN BRADY, Esq., F.R.S., &c., &c. He was known to many of our Members, some of whom he incited to work at that most interesting group of lowly forms, the *Foraminifera*, with which group his name will always be associated in connection with the "Challenger Report on the Deep-Sea Soundings."

We have within the last year added to our list 63 new Members. This points to the fact that our Society still holds its position, and affords to a large number of our fellow-citizens a centre of intellectual communication and recreation, which meets a want amongst those who are daily engaged in occupations which in themselves might become monotonous. Our Society opens to them the field of Nature with all its wonderful and hidden forces, whether they turn to the minute examination of the various species of Plants and Animals, or to the larger problems by which the world is shaped and governed. Steady and true work in any one branch is sure to increase intellectual power, while in the long run, there is no knowing how much it may help forward the sum of human knowledge. Every district is the better for having in it those who take an interest in natural phenomena, and there are places all over the world which have become famous by the work of some careful Naturalist, who leaves behind him a centre from which other work radiates. It is to encourage such work that our Society exists with other Societies of a kindred nature.

It is with great regret that your Committee have to announce the resignation of our President, PROF. T. MCKENNY HUGHES. He feels himself compelled to retire owing to his many engagements, and the fact that his connection with this part of the country is in a great measure severed. He was elected in November, 1875, and has been the life and soul of the Society for sixteen years. We may truly say that it was to his energy in those early days, when we had just lost our Founder, CHARLES KINGSLEY, that our Society owes its present vigorous existence. His courteous manners and eloquent speech made him at once a popular leader, while in the science to which he has devoted his life we had an unrivalled teacher.

The Natural History collection has largely increased during the past year. This is due in a great measure to our Curator, MR. NEWSTEAD, whose indefatigable work in this direction will in time render our Local Museum a complete representation of all that is valuable and rare in the district.

We have pleasure in stating that our Society has been presented with a splendid and complete Microscope by J. TATLOCK, ESQ., who has added this to his many previous kindnesses. The Microscope is for the free use of the Members, and is an invaluable addition to the Society's property.

The Library is in good order, and has been increased both by gifts and purchases. The loan of books from the Free Library is largely made use of by the Students of the various classes held in the Museum buildings, and for this your Committee beg to tender their best thanks to the FREE LIBRARY COMMITTEE.

MR. MILLS, our Honorary Treasurer, will present you with his annual Balance Sheet. It will show that the Accounts of the Society are in a satisfactory condition, and we have pleasure in acknowledging our indebtedness to MR. MILLS for so well carrying out what is often a thankless office.

MR. E. J. BAILLIE will also bring before you the Kingsley Memorial Accounts.



The general work of the Society continues to be carried out under the heads of—

## EXCURSIONS

## EVENING RAMBLES

## GENERAL MEETINGS

## SECTIONAL MEETINGS

## CONVERSAZIONE

## CLASSES FOR INSTRUCTION

## PRIZES

The following places were visited during the summer, 1890 :—

|                  |                                                            |       |       |
|------------------|------------------------------------------------------------|-------|-------|
| May 21st .....   | The Coombes, Broxton.                                      |       |       |
| June 6th .....   | Edge Hall Gardens and Broxton Wood.                        |       |       |
| „ 24th .....     | Vale of Llangollen.                                        |       |       |
| „ 26th .....     | Conway Valley, in connection with Photographic Convention. |       |       |
| „ 27th .....     | Hawarden                                                   | ditto | ditto |
| July 21st .....  | The great Vyrnwy Lake.                                     |       |       |
| Sept. 19th ..... | Hawarden Bridge                                            |       |       |

## EVENING RAMBLES.

|                 |                                        |
|-----------------|----------------------------------------|
| May 30th .....  | Upton Nurseries.                       |
| June 4th .....  | Blacon                                 |
| „ 9th .....     | The Dale, Moston Wood.                 |
| „ 13th .....    | The Serpentine, Eaton, & Radley Woods. |
| „ 17th .....    | Heron Bridge Meadows.                  |
| July 10th ..... | Waverton.                              |
| „ 15th .....    | Oakfield, Upton.                       |
| „ 30th .....    | Hoole Hall Gardens.                    |
| Aug. 7th .....  | Sealand Road and Meadows.              |

The Excursions and Evening Rambles have been fairly attended, but we are sorry that more of our Members were not able to avail themselves of the carefully planned Excursions of the Photographic Convention. Those who were present had a rare opportunity of seeing much beautiful country. The excursion to Vyrnwy Lake was a great success, and afforded our Members much interesting experience, and the opportunity of viewing, under good guidance, one of the greatest engineering works of the present day.

The Annual Conversazione took place in the Town Hall, on September 25th. On this occasion, the Kingsley Memorial Medal was presented to the REV. C. WOLLEY-DOD, M.A.,

of Edge Hall, Malpas, by MRS. BARBOUR, of Bolesworth Castle. The REV. C. WOLLEY-DOD is so well-known to all who take an interest in Plants, their acclimatization and cultivation, that the Society felt it their privilege to confer on him the Kingsley Memorial Medal, and in accepting it he has added another name, of which we are justly proud, to the list of those who have received it in former years.

The Kingsley Memorial Prize of £10 was awarded to MR. A. J. NIXON, of Manley, for a very fine collection of Land and Fresh-water Shells.

A Grant of £10 was made to MR. NEWSTEAD for his excellent Biological work during the past year.

The especial feature of the *Conversazione* of 1890 was the lighting of a large part of the Town Hall by electricity. The oil lamps in the Council Chamber were replaced by incandescent lamps, and in consequence the room was delightfully cool, and the objects under the Microscopes were seen to much greater perfection. The Electric lighting was done under the able direction of MESSRS. FAWCUS & COWAN of the EDISON SWAN COMPANY, and considering that it was a temporary arrangement, for the evening only, it speaks volumes for the perfection to which the science has already advanced.

The NATIONAL TELEPHONE COMPANY also established connections with London, Manchester, and Liverpool, so that plays and music performed in those places could be distinctly heard in the Town Hall at Chester.

The Microscopes, Photographs, Rare Plants, Cut Flowers, and other Natural History specimens, were fully as numerous and interesting as on former occasions. To meet the tastes of all, there were several short Lectures and Lantern Exhibitions. The Committee owe their best thanks to the then Mayor, JAMES SALMON, ESQ., for granting the use of the Town Hall.

This annual gathering of the Society has done much in past years to keep its interests before the public. We have

always looked to our Members for support on these occasions, and this has been freely given. It is only those who are actively engaged in this work who know the labour involved to ensure its success. We again appeal for help this year, while at the same time we beg to thank most sincerely all those who have so kindly aided us in the past.

The General Meetings of the past year were as follows :—

1890.

Oct. 30—"Sidereal Photography," by S. OKELL, ESQ., F.R.A.S., Bowdon.

Nov. 27—"Artistic Japan," by H. M. J. UNDERHILL, ESQ., Oxford.

1891.

Jan. 29—"Old and New Fashions in Typography," by TALBOT B. REED, ESQ., London.

Feb. 26—"The Vyrnwy Valley—Past and Present," by J. M. WRIGHT, ESQ., A.M.I.C.E.

Mar. 19—"How the Microscope and Camera combine to produce a Picture," by DR. STOLTERFOTH, M.A.

Apr. 30—"Notes on a Journey through Spain," by G. CLARIDGE DRUCE, ESQ., M.A., F.L.S., Vice-President of Oxford Natural History Society."

These Lectures and Papers deal with matters of general interest, and they have been well attended.

The Sections into which the Society is divided have met as follows :—

#### BOTANICAL SECTION.

1890.

Nov. 6—"Buttercups and Daisies," by the Chairman, MR. J. D. SIDDALL.

1891.

Jan. 1—"Ferments and Moulds," by MR. F. V. DUTTON.

Feb. 19—"The Autumn Phenomena of Plant Life," by MR. ROBERT HOLLAND, Frodsham.

Apr. 23—"Spring Flowers," by MR. E. J. BAILLIE, F.L.S.

#### ZOOLOGICAL SECTION.

1890.

Nov. 13—Explanations and Specimens of MR. NEWSTEAD'S work during the past year ; also MR. SIDDALL on "Dredgings from Bull Bay."

1891.

Jan. 8—"Notes on the Season of 1890," by the Chairman, MR. A. O. WALKER, F.L.S.

Mar. 5.—Conversational Meeting for exhibiting Microscopical and other objects.

## GEOLOGICAL SECTION.

1890.

- Nov. 2—"The Composition of the Crust of the Earth," by MR. A. W. LUCAS, F.R.G.S.

1891.

- Jan. 15—"Photographic Records of the Rocks," by MR. OSMUND W. JEFFS, Rock Ferry.
- Mar. 12—"Was Palæolithic Man of the Pre-historic Bonecaves of the Vale of Clwyd—Glacial; and Neolithic Man of Northern Britain—Post-glacial," by MR. W. SHONE, F.G.S.

## NATURAL PHILOSOPHY SECTION.

1890.

- Dec. 4—"Coal Gas: its Manufacture and Application," by MR. G. E. MACDONALD.

1891.

- Jan. 22—"Aniline Dyes and Pigments," by MR. J. BAIRSTOW, Queen's Ferry Chemical Works.
- Apr. 3—"Lead: its Manufacture and Applications in the Arts," by MR. J. G. COCHRANE, M.A.

## APPLIED SCIENCE SECTION.

1890.

- Dec. 18—"Keswick Electric Light Station," by MESSRS. FAWCUS, C.E., and E. W. COWAN, A.M.I.C.E.

1891.

- Feb. 12—"Distribution of Power by Electricity, with special reference to the new City and Southwark Subway," by MR. C. E. KNOWLES, A.M.I.C.E., Glossop.
- Apr. 16—"Milk Ivory: a new use for Skimmed Milk," by MR. W. CAMBELL CALLENDER, F.C.S.

We may here mention that some of our Sections have prepared special Reports. This is a move in the right direction. The Secretaries of the Literary and Photographic Sections (the two most recently established) will give you full details of what they have done in the past year. Your Committee hope this good example will be followed by other Sections in future years, as by this means it will be possible to refer, under its proper head, to what has been going on in the Society.

We have no record of Meetings of the Microscopical Section. Like the Photographic Section, it appears at many of our Meetings. The Microscope and the Camera together, help

to illustrate the lectures far better than the diagram of former days. In many cases now the actual microscopic object can be thrown on the screen by means of its photograph. More accurate diagrams are also now possible, because a really good drawing can be reproduced by photography, and then made into a lantern slide. This has been done in the last few years, but now the time has come when a Society like ours should have a first-rate Lantern and all its appliances for giving graphic illustrations of the subjects brought before an audience. This we hope to possess before another winter.

Very closely connected with our Society is the Paxton Society, which meets in this building every other Saturday. In this Society are discussed the practical bearings of Natural Science in its relation to the cultivation of Trees, Fruits, and Flowers, and many of the working Gardeners and Agriculturists of the district avail themselves of its Meetings. This is a healthy sign, and promises good results. Already the Society numbers 70 Members.

Your Committee have met frequently during the past year, and have endeavoured, as far as possible, to make the arrangements for the Society tend to the general convenience of its Members. This is often difficult, as the building is in joint occupation with other Societies, and the demand for the use of rooms is yearly becoming greater. The Committee trust, however, that our Members will continue to support their executive as they have hitherto done, and that the coming year may be one of continued prosperity and usefulness.

HENRY STOLTERFOTH, M.A., M.D.,  
*Scientific Secretary.*

# CURATOR'S REPORT FOR 1890-91.

It gives your Curator much pleasure to present his Third Annual Report to the Members of this Society, more especially since the additions for the past year show a decided increase over those of previous years.

The following is a total abstract of the number of Species and Specimens :—

|                                          | Species Presented. | Species Purchased. | Total of Species. | Total of Specimens. |
|------------------------------------------|--------------------|--------------------|-------------------|---------------------|
| <i>Cœlenterata</i> .. .. .               | 2                  | ..                 | 2                 | 5                   |
| <i>Crustacea</i> (Shrimps, &c.) .. ..    | 4                  | ..                 | 6                 | 6                   |
| <i>Coleoptera</i> (Beetles) .. .. .      | 77                 | ..                 | 77                | 148                 |
| <i>Neuroptera</i> (Dragon Flies) .. ..   | 4                  | ..                 | 4                 | 4                   |
| <i>Hymenoptera</i> (Bees, &c.) .. ..     | 32                 | ..                 | 32                | 94                  |
| <i>Lepidoptera</i> (Moths) .. .. .       | 122                | ..                 | 122               | 260                 |
| * <i>Coccidæ</i> (Scale Insects) .. ..   | 19                 | ..                 | 19                | 100                 |
| <i>Aleurodidæ</i> (Powder-wing Flies) .. | 1                  | ..                 | 1                 | 2                   |
| <i>Diptera</i> (Two-wing Flies) .. ..    | 1                  | ..                 | 1                 | 1                   |
| Life-histories of Injurious Insects ..   | 9                  | ..                 | 9                 | 63                  |
| † <i>Mollusca</i> (Shells) .. .. .       | 84                 | ..                 | 84                | 1423                |
| <i>Pisces</i> (Fish) .. .. .             | 3                  | ..                 | 3                 | 7                   |
| <i>Reptilia</i> .. .. .                  | 2                  | ..                 | 2                 | 3                   |
| Aves (Birds) .. .. .                     | 38                 | 8                  | 46                | 99                  |
| Eggs and Nests .. .. .                   | 11                 | ..                 | 11                | 14                  |
| <i>Mammalia</i> (Animals) .. .. .        | 7                  | ..                 | 7                 | 10                  |
| Geology .. .. .                          | ..                 | ..                 | ..                | 290                 |
| TOTAL .. .. .                            | 416                | 8                  | 426               | 2529                |

\* The total does not include specimens of the genus *Diaspis*, *Mytilaspis*, and *Chionaspis*.

† Including the Kingsley Memorial Collection.

Out of this total, about 1,329 have been sent in entirely unprepared, so that it can be seen at a glance the nature and extent of the work undertaken by your Curator during the past year. It may also be interesting to note that the total number of additions since April 1888, are 6,127.

At this point your Curator begs most respectfully to call attention to the fact that, for months past, he has been unable to place many of the recent donations on view, there being

now no available exhibitive space; it will, therefore, be necessary, in a short time, to provide some temporary accommodation for the reception and storage of specimens. This, however, does not apply to the *Entomological* department, as fortunately there are still many empty drawers in the cabinets.

All the Birds have been remounted on the new blocks and labelled. Three life-histories of Birds have been prepared, viz., the *Lesser Tern*, *Stone Chat*, and *Ring Ouzel*; but owing to the number of specimens sent in, little else has been done in this direction.

In the Entomological department, we are under considerable obligations to the following gentlemen for their valuable help in the identification of species:—MR. EDWARD SAUNDERS, F.E.S., Woking; REV. CANON W. W. FOWLER, M.A., F.L.S., Lincoln; MR. JOHN B. BRIDGEMAN, F.E.S., Norwich; MR. EDWARD A. FITCH, F.E.S., Maldon; MR. J. W. DOUGLAS, F.E.S., Lewisham; PROF. C. V. RILEY, Agricultural Department, Washington, U.S.A.

A few additional life-histories of Injurious and other Insects have been prepared, and some valuable additions have been made to the following orders:—*Coleoptera*, *Lepidoptera*, and the *Coccidæ*. To the latter your Curator has added five species new to science, three of which he has described; the other two have been described by MR. J. W. DOUGLAS. Illustrated descriptions of these will shortly be placed in the Society's Library.

Owing to the great deficiency in our Library of reference works, your Curator acknowledges, with thanks, the assistance rendered by the following gentlemen in granting the loan of their valuable books:—MR. A. O. WALKER, MR. J. W. DOUGLAS, MR. C. E. STOTT, Bolton-le-Moors, MR. T. SHEPHEARD, and REV. E. A. PITCAIRN-CAMPBELL.

In concluding this Report, your Curator cannot help expressing his gratitude for the kind help and encouragement he has always received at the hands of the Committee and from generous donors.

## LIST OF DONORS.

## COELENTERATA.

|                    |    |    |    | Species. | Specimens. |
|--------------------|----|----|----|----------|------------|
| Mr. Thos. Shephard | .. | .. | .. | 2        | — 5        |

## CRUSTACEA.

|                    |    |    |    |   |     |
|--------------------|----|----|----|---|-----|
| Mr. Thos. Shephard | .. | .. | .. | 1 | — 2 |
| „ A. O. Walker     | .. | .. | .. | 3 | — 4 |

## COLEOPTERA.

|                 |    |    |    |    |       |
|-----------------|----|----|----|----|-------|
| Mr. A. J. Nixon | .. | .. | .. | 5  | .. 10 |
| A. O. Walker    | .. | .. | .. | 20 | — 23  |
| „ T. Shephard   | .. | .. | .. | 2  | — 2   |
| „ J. D. Siddall | .. | .. | .. | 1  | — 1   |
| „ J. Bairstow   | .. | .. | .. | 1  | — 12  |
| „ J. Arkle      | .. | .. | .. | 1  | — 2   |
| Miss Tomlin     | .. | .. | .. | 6  | — 14  |
| Curator         | .. | .. | .. | 41 | — 84  |

## NEUROPTERA.

|              |    |    |    |   |     |
|--------------|----|----|----|---|-----|
| Mr. J. Arkle | .. | .. | .. | 2 | — 2 |
| Curator      | .. | .. | .. | 2 | — 2 |

## HYMENOPTERA.

|                   |    |    |    |    |      |
|-------------------|----|----|----|----|------|
| Mr. A. O. Walker  | .. | .. | .. | 6  | — 8  |
| „ E. J. Baillie   | .. | .. | .. | 6  | — 6  |
| „ Thos. Shephard  | .. | .. | .. | 1  | — 1  |
| Miss C. E. Tomlin | .. | .. | .. | 3  | — 5  |
| Curator           | .. | .. | .. | 16 | — 74 |

## LEPIDOPTERA.

|                                    |    |    |    |    |       |
|------------------------------------|----|----|----|----|-------|
| Mr. J. Arkle                       | .. | .. | .. | 62 | — 165 |
| „ F. R. Bolland                    | .. | .. | .. | 1  | — 2   |
| „ S. J. Capper                     | .. | .. | .. | 1  | — 2   |
| „ A. J. Nixon                      | .. | .. | .. | 1  | — 1   |
| „ Geo. O. Day, Sale                | .. | .. | .. | 1  | — 4   |
| „ Thos. Shephard                   | .. | .. | .. | 2  | — 2   |
| „ Geo. Frater                      | .. | .. | .. | 20 | — 30  |
| „ A. O. Walker                     | .. | .. | .. | 3  | — 5   |
| Miss C. E. Tomlin                  | .. | .. | .. | 2  | — 4   |
| Master Archibald Pitcairn-Campbell | .. | .. | .. | 2  | — 7   |
| „ Hugh T. Dutton                   | .. | .. | .. | 1  | — 1   |
| Curator                            | .. | .. | .. | 16 | — 37  |



## COCCIDÆ.

| Curator | Species. | Specimens. |
|---------|----------|------------|
| .. .. . | 19       | — 100*     |

## ALEURODIDÆ.

|                            |   |     |
|----------------------------|---|-----|
| Mr. Thos. Shephard .. .. . | 1 | — 2 |
|----------------------------|---|-----|

## DIPTERA.

|                            |   |     |
|----------------------------|---|-----|
| Mr. Thos. Shephard .. .. . | 1 | — 1 |
|----------------------------|---|-----|

## LIFE-HISTORIES OF INJURIOUS INSECTS.

|                            |   |      |
|----------------------------|---|------|
| Mr. J. Lyon Denson .. .. . | 2 | — 5  |
| „ G. P. Miln .. .. .       | 1 | — 12 |
| „ W. Chalton .. .. .       | 1 | — 5  |
| Curator .. .. .            | 5 | — 41 |

## MOLLUSCA (Shells.)

|                            |   |     |
|----------------------------|---|-----|
| Mr. Thos. Shephard .. .. . | 1 | — 2 |
| „ A. O. Walker .. .. .     | 2 | — 3 |
| „ G. W. Shrubsole .. .. .  | 1 | — 3 |

## PISCES (Fish.)

|                             |   |     |
|-----------------------------|---|-----|
| Mr. A. O. Walker .. .. .    | 2 | — 4 |
| Master C. Siddall } .. .. . | 1 | — 3 |
| „ R. Johnston }             |   |     |

## REPTILIA.

|                          |   |     |
|--------------------------|---|-----|
| Mr. J. R. Hodges .. .. . | 1 | — 2 |
| Curator .. .. .          | 1 | — 1 |

## AVES (Birds.)

|                                           |   |      |
|-------------------------------------------|---|------|
| His Grace the Duke of Westminster, K.G. } | 2 | — 2  |
| Lord Arthur Grosvenor }                   |   |      |
| Rev. C. Wolley-Dod .. .. .                | 1 | — 1  |
| „ C. Redman .. .. .                       | 1 | — 1  |
| His Honour Judge Ffoulkes .. .. .         | 1 | — 1  |
| Dr. W. H. Dobie .. .. .                   | 3 | — 16 |
| Master H. L. Parry .. .. .                | 1 | — 1  |
| Mr. C. Smith .. .. .                      | 2 | — 2  |
| „ C. Stevens .. .. .                      | 1 | — 1  |
| „ T. H. Hignett .. .. .                   | 1 | — 2  |
| „ — Dean, Mollington .. .. .              | 1 | — 4  |
| „ R. P. Bradbury .. .. .                  | 1 | — 1  |
| „ Lloyd-Fletcher, Nerquis Hall .. .. .    | 1 | — 1  |
| „ W. Perry, Broxton .. .. .               | 1 | — 1  |
| „ — Smith, Saighton .. .. .               | 2 | — 2  |
| „ S. J. R. Dickson .. .. .                | 1 | — 1  |

\* This does not include the genus *Diaspis*, *Mytilaspis*, and *Chionaspis*.

## AVES—Continued.

|                                |    |    |    |    | Species. | Specimens. |
|--------------------------------|----|----|----|----|----------|------------|
| Mr. A. O. Walker               | .. | .. | .. | .. | 9        | — 16       |
| „ J. Bairstow                  | .. | .. | .. | .. | 1        | — 1        |
| „ A. Cookson, Oakmere          | .. | .. | .. | .. | 4        | — 20       |
| „ W. G. Crum, Broxton Old Hall | .. | .. | .. | .. | 1        | — 1        |
| Miss Clogstown                 | .. | .. | .. | .. | 2        | — 10       |
| Curator                        | .. | .. | .. | .. | 1        | — 5        |
| Purchased                      | .. | .. | .. | .. | 8        | — 9        |

## NESTS AND EGGS.

|                    |    |    |    |    |   |     |
|--------------------|----|----|----|----|---|-----|
| Col. Clutterbuck   | .. | .. | .. | .. | 1 | — 1 |
| Dr. W. H. Dobie    | .. | .. | .. | .. | 2 | — 2 |
| Mrs. T. H. Hignett | .. | .. | .. | .. | 1 | — 1 |
| Mr. J. Lyon Denson | .. | .. | .. | .. | 1 | — 3 |
| „ W. Hand          | .. | .. | .. | .. | 1 | — 1 |
| „ A. J. Nixon      | .. | .. | .. | .. | 2 | — 3 |
| Master E. Rimmer   | }  | .. | .. | .. | 2 | — 2 |
| „ C. P. Hardy      |    | .. | .. | .. | 1 | — 1 |
| „ E. M. Parry      |    | .. | .. | .. | 1 | — 1 |

## MAMMALIA (Animals.)

|                                         |    |    |    |    |   |     |
|-----------------------------------------|----|----|----|----|---|-----|
| His Grace the Duke of Westminster, K.G. | .. | .. | .. | .. | 1 | — 2 |
| Mr. J. Rowlands, Bodfari                | .. | .. | .. | .. | 1 | — 1 |
| „ Lloyd-Fletcher, Nerquis               | .. | .. | .. | .. | 1 | — 1 |
| „ Owen, Pictou                          | .. | .. | .. | .. | 1 | — 1 |
| „ Tom Weston                            | .. | .. | .. | .. | 1 | — 1 |
| Miss Tomlin                             | .. | .. | .. | .. | 1 | — 3 |
| Rev. C. Wolley-Dod                      | .. | .. | .. | .. | 1 | — 1 |

## GEOLOGY.

|                              |    |    |    |    |    |     |
|------------------------------|----|----|----|----|----|-----|
| Capt. F. R. Blackburne, R.N. | .. | .. | .. | .. | .. | 64  |
| Mr. W. F. Lowe               | .. | .. | .. | .. | .. | 174 |
| „ Catherall-Audsley          | .. | .. | .. | .. | .. | 50  |
| „ F. F. Brown                | .. | .. | .. | .. | .. | 1   |
| „ F. E. Rooper, Llangollen   | .. | .. | .. | .. | .. | 1   |

## MISCELLANEOUS.

Dr. W. H. Dobie—One Glass Case, Stand, and Fittings, for Life-history of *Lesser Terns*.

## RECORDS.

|                |            |                    |               |
|----------------|------------|--------------------|---------------|
| Mr. J. Rowland | .. Birds   | Mr. W. E. Sharpe.. | Coleoptera    |
| „ A. O. Walker | .. Various | Curator            | .. .. Various |

R. NEWSTEAD, F.E.S.,

30th April, 1891.

CURATOR.

The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1891.

| Dr.                                | £ s. d. | £ s. d. | Cr.                                                 | £ s. d.   |
|------------------------------------|---------|---------|-----------------------------------------------------|-----------|
| By Balance from 1889-90 .. ..      | 9       | 1       | To Museum Management Committee .. ..                | 65 0 0    |
| " Subscriptions—                   |         |         | " Library .. ..                                     | 0 19 0    |
| 1 for 1887-8 @ 5/- .. ..           | 0       | 5       | " Natural History Museum .. ..                      | 22 18 10½ |
| 6 " 1888-9 @ 5/- .. ..             | 1       | 10      | " Printing, Stationery, &c. .. ..                   | 45 8 3    |
| 24 " 1889-90 @ 5/- .. ..           | 6       | 0       | " Postages .. ..                                    | 18 15 0   |
| 555 " 1890-91 @ 5/- .. ..          | 138     | 15      | " Subscription to Palaeontographical Society .. ..  | 1 1 0     |
|                                    |         | 146     | " " National Footpaths Pre-                         |           |
| Balance on Excursion Account .. .. | 1       | 9       | ervation Society .. ..                              | 0 10 6    |
| " Balance due to Treasurer .. ..   | 4       | 1       | " Entrance Fee for Curator as Member of the         |           |
|                                    |         | 7½      | Entomological Society .. ..                         | 2 2 0     |
|                                    |         |         | " Subscriptions ditto for years 1890 and 1891 .. .. | 2 2 0     |
|                                    |         |         | " Balance Evening Meetings Account .. ..            | 2 6 0     |
|                                    |         |         |                                                     | £161 2 7½ |

3RD JUNE, 1891—*Examined and found correct, shewing a balance due to the  
Treasurer of Four Pounds One Shilling and Sevenpence Halfpenny.*

J. ROWE DUTTON, }  
BERESFORD ADAMS, }  
HON. AUDITORS.

JOHN MILLS.  
HON. TREASURER.

# **"KINGSLEY MEMORIAL" FUND.**

**STATEMENT OF ACCOUNT for the Year ended 30th April, 1891.**

| Dr.                               |       | £  | s. | d.   | Cr.                                                                                 |    | £  | s.  | d.    |
|-----------------------------------|-------|----|----|------|-------------------------------------------------------------------------------------|----|----|-----|-------|
| To Balance                        | .. .. | .. | 40 | 7 7  | By Payments at the Conversazione of the Chester Society of Natural Science, 1890 :— | .. | .. | 10  | 0 0   |
| " Great Western Railway Dividends | .. .. | .. | 19 | 0 3  | Mr. A. J. Nixon                                                                     | .. | .. | ..  | ..    |
| " Proceeds from Sale of Pamphlets | .. .. | .. | 0  | 2 6  | Mr. R. R. Newstead                                                                  | .. | .. | 10  | 0 0   |
| " Bankers' Interest               | .. .. | .. | 0  | 16 6 | Advertising Prizes in Chester Papers                                                | .. | .. | 1   | 11 0  |
|                                   |       |    |    |      | " Mr. G. R. Griffith, Printing Slips of "Prizes"                                    | .. | .. | ..  | ..    |
|                                   |       |    |    |      | and "Bye-Laws"                                                                      | .. | .. | 0   | 15 0  |
|                                   |       |    |    |      | " Mr. J. D. Siddall, Engraving Medal                                                | .. | .. | 0   | 2 0   |
|                                   |       |    |    |      | Balance                                                                             | .. | .. | 37  | 18 10 |
|                                   |       |    |    |      |                                                                                     |    |    | £60 | 6 10  |

15TH APRIL, 1891—*Examined and found correct,*  
W. VINCENT,  
HON. AUDITOR.

EDMUND J. BAILLIE,  
HON. TREASURER.

## PHOTOGRAPHIC SECTION.

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### REPORT.

IN presenting their third Annual Report, your Committee ask for increased interest in the work of the Section, especially in the contribution of papers and demonstrations by those whose experience would be of great value to many of their fellow-members who may be just beginning the art of photography, and struggling with the many difficulties which beset the path of the novice.

Your Committee venture to hope that the Meetings and Excursions of the Photographic Convention, which was held in Chester in the summer of 1890, proved attractive and profitable to the Members who were able to attend, and that valuable knowledge and useful hints were acquired from friendly intercourse with some of the distinguished photographers who assembled at those gatherings.

Two General Meetings of the Society have been devoted to subjects essentially photographic; at one a Lecture on "Sidereal Photography" was given by MR. S. OKELL, F.R.A.S., and at the other a Lecture on "How the Microscope and the Camera combine to produce a Picture," by DR. STOLTERFOTH; whilst at most of the ordinary meetings of the Society the aid of photography has been enlisted to illustrate the remarks of the Lecturers, by means of Lantern Slides, &c.

The Members of the Section and others contributed to the success of the Annual Conversazione by an Exhibition of Photographic Prints and Lantern Transparencies, many of which were much admired for their artistic and technical qualities.

Your Committee note with pleasure that a lady member of the Section has gained a medal at the International Photographic

Exhibition now being held in Liverpool, and beg to commend that Exhibition to the attention of the Members, feeling assured that nothing tends so much to educate taste and stimulate to increased exertion as seeing the excellence to which photography may attain under the artistic perception and manipulative skill of past-masters of the art-science.

The following Sectional Meetings have been held. To all those who took part therein your Committee tender their best thanks.

1890.

Nov. 10.—Exhibition of Lantern Slides by Members of the Section.

Dec. 8.—“Enlarging and Contact Printing on Bromide Paper; the Kodak and Transparent Films,” by MR. H. M. SMITH, The Eastman Photographic Materials Co., London.

1891.

Jan. 21.—“The White Mountains of New Hampshire,” by THE BOSTON (U.S.A.) CAMERA CLUB.

Feb. 5.—“Notes on Micro-Photography,” by DR. STOLTERFOTH, M.A.

April 9.—“The Land of the Heroes of ‘Westward Ho,’” by MR. G. F. WYNNE.

J. H. SPENCER,  
HON. SECRETARY.



# PHOTOGRAPHIC SECTION.

BALANCE SHEET TO 31st MARCH, 1891.

| RECEIPTS.              |             | PAYMENTS.              |              |
|------------------------|-------------|------------------------|--------------|
|                        | £ s. d.     |                        | £ s. d.      |
| To Balance from 1890.. | .. .. 2 5 4 | By Photographic Papers | .. .. 1 1 8  |
| „ Subscriptions        | .. .. 1 7 6 | „ Postages             | .. .. 0 2 11 |
|                        |             | „ Carriage             | .. .. 0 6 7  |
|                        |             | „ Printing             | .. .. 0 6 0  |
|                        |             | Balance                | .. .. 1 15 8 |
|                        | £3 12 10    |                        | £3 12 10     |

*Balance in hands of the Treasurer, One Pound Fifteen Shillings and Eighthpence.*

AUG. 17TH, 1891—*Examined and found correct,*

BERESFORD ADAMS, HON. AUDITOR.

## SECTION OF LITERATURE.

## REPORT.

THE following Meetings have been held during the winter :—

1890.

Nov. 3—"The Legend of the Holy Grail," by REV. A. H. FISH, B.A.

Dec. 1—"Walt Whitman," by MR. E. J. BAILLIE, F.L.S.

1891.

Feb. 4—"The Story of the Battle of Agincourt," by MR. T. M. LOCKWOOD, F.R.I.B.A.

Mar. 2—"The Passion Play at Oberammagau, in 1890," by MR. C. LANCASTER.

Apr. 6—Business Meeting.

The general interest taken in the Section, and the very good attendance at the Meetings have shewn that the hopes of its promoters were fully justified. It is also gratifying to notice that the new Section, so far from being regarded as an intruder, has found some of its most cordial supporters among the members and officers of the Scientific Sections. It is hoped next Session to have rather more frequent meetings, and to include in the Course not merely Lectures and Papers, but the reading and informal discussion of some of the masterpieces of literature. In this way the Section may perhaps hope to supplement to some extent the work of the University Extension Lectures, to whose stimulating influence it has been, particularly during the present Session, considerably indebted.

At the Business Meeting on April 6th, 1891, the President and Officers were re-elected.

ARTHUR H. FISH,

HON. SECRETARY.



## KINGSLEY MEMORIAL MEDAL,

ESTABLISHED 1877,

*"For having contributed materially to the promotion and advancement of some branch or department of Natural Science."*—Vide Trust Deed.

- 1877—MRS. CHAS. KINGSLEY (In Memoriam.)  
 1878—JOHN PRICE, M.A.  
 1879—SIR PHILIP DE MALPAS GREY-EGERTON, BART, F.R.S.  
 1880—PROF. T. MCKENNY HUGHES, M.A., F.S.A., F.G.S., &c.  
 1881—D. MACKINTOSH, F.G.S.  
 1882—ISAAC BYERLEY, M.R.C.S., F.L.S.  
 1883—GEORGE W. SHRUBSOLE, F.G.S.  
 1884—ALFRED OSTEN WALKER, F.L.S.  
 1885—JOHN DAVIES SIDDALL.  
 1886—HENRY STOLTERFOTH, M.A., M.D.  
 1887—WILLIAM SHONE, F.G.S.  
 1888—THOMAS SHEPHEARD, F.R.M.S.  
 1889—THOS. RUDDY.  
 1890—REV. CHAS. WOLLEY-DOD, M.A.

## KINGSLEY MEMORIAL PRIZES,

ESTABLISHED 1877,

*"For the reward, encouragement, and the advancement of the pursuit and study of Natural Science."*—Vide Trust Deed.

- |      |   |                     |    |                                                                                          |
|------|---|---------------------|----|------------------------------------------------------------------------------------------|
| 1878 | { | HELEN SMITH .....   | £5 | } <i>Herbarium of Flowering Plants.</i>                                                  |
|      |   | EDWIN W. OKELL....  | 5  |                                                                                          |
| 1879 |   | GEORGE SHRUBSOLE..  | 5  | <i>Carboniferous Fossils.</i>                                                            |
| 1881 |   | E. HOPKINS.....     | 5  | <i>Cryptogamous Plants.</i>                                                              |
| 1882 |   | GEORGE SHRUBSOLE..  | 10 | <i>Corals of the Mountain Limestone.</i>                                                 |
| 1886 |   | ROBERT NEWSTEAD ..  | 10 | <i>Hymenoptera.</i>                                                                      |
| 1887 |   | JOHN LYON DENSON..  | 5  | <i>Notes of Observations illustrating the Natural Science of the Society's District.</i> |
| 1888 |   | LILIAN E. TOMLIN .. | 5  | <i>Coleoptera.</i>                                                                       |
| 1889 | { | EDITH C. TOMLIN.... | 5  | } <i>Diptera and Hymenoptera (Terebrantia), &amp;c.</i>                                  |
|      |   | W. E. SHARP .....   | 5  |                                                                                          |
| 1890 |   | ALFRED J. NIXON ..  | 10 | <i>Land and Fresh-Water Shells.</i>                                                      |

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers:—

### 1891.

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prize, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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*\*\* All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors can obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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The Prizes will be awarded at the Annual Conversazione.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

---

- Academia Nacional de Ciencias De La Republica,  
 Argentina, Cordoba.  
 Barrow Naturalists' Field Club.  
 Brighton and Sussex Natural History' Society.  
 Bristol Naturalists' Society.  
 British Museum (Natural History), Cromwell Road,  
 London, S.W.  
 Burnley Literary and Scientific Club.  
 Cardiff Naturalists' Society.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society  
 and Field Club.  
 Epping Forest and County of Sussex Naturalists' Field Club.  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 La Société d'Histoire Naturelle de St. Wladimir á Kiew,  
 Russie.  
 Leeds Naturalists' Club.  
 Liverpool Geological Society.  
 Liverpool Geological Association.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Microscopical Society.  
 Manchester Scientific Students' Association.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæo-  
 logical Society.  
 Nottingham Naturalists' Society.  
 Postal Microscopical Society.  
 Quekett Microscopical Society.  
 Rochdale Field Naturalists' Society.  
 Smithsonian Institution, Washington, D.C.  
 United States Geological Survey.  
 Vatican Observatory, Rome (F. Francis Denza, Director.)  
 Vienna Natural History Museum.  
 Wigan Literary and Scientific Society.

## HONORARY MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


- Archer, Frank, Esq., B.A. .... 14 *Cook Street, Liverpool*  
 Carruthers, W., Esq., F.R.S., F.G.S. .... *The British Museum, South Kensington, London, S.W.*
- \*Dawkins, Prof. W. Boyd, M.A., F.R.S.,  
 F.G.S., F.S.A. .... *Woodhurst, Wilmslow rd., Fallowfield, Manchester*
- De Tabley, The Right Hon. Lord ..... 62, *Elm Park road, Chelsea, London, S.W.*
- \*Hicks, H., Esq., M.D., F.R.S., F.G.S., .... *Hendon Grove, Hendon, London, N.W.*
- \*Higgins, Rev. H. H., M.A. .... 29, *Falkner Square, Liverpool*
- Hooker, Sir J. D., K.C.S.I., F.R.S. .... *Royal Gardens, Kew, London, W.*
- \*Hughes, Prof. T. McKenny, M.A., F.R.S.,  
 F.S.A., F.G.S., &c. .... *Trinity College, Cambridge*
- Hunt, T. Sterry, Esq., M.A., LL.D., F.R.S. .... *Montreal, Canada*
- Huxley, Prof. T. H., LL.D., F.R.S., Ph. D.,  
 F.L.S., F.G.S. .... *Hodeslea, Eastbourne,*
- \*Judd, Prof. J. W., F.R.S. .... *Royal College of Science, South Kensington, London, S.W.*
- Kingsley, Mrs. Chas. .... *Tachbrook Mallory, Leamington*
- \*Lubbock, Sir John, Bart., M.P., F.R.S.,  
 &c. .... *Down, Farnborough, Kent.*
- \*Morton, G. H., Esq., F.G.S. .... 209, *Edge Lane, Liverpool, E.*
- Norman, Rev. Canon, M.A., D.C.L., F.R.S. .... *Burnmoor Rectory, Fence Houses, Durham*
- \*Rae, E., Esq., F.S.A. .... *Court Lodge, Birkenhead*
- Renard, The Abbé ..... *Curator of the Royal Museum of Natural History, Brussels*
- \*Rudler, F. W., Esq., F.G.S. .... *Museum of Practical Geology, Jermin street, London, S.W.*
- Tyndall, Prof. J., D.C.L., LL.D., F.R.S. .... *Hind Head House, Haslemere*
- Villanova-y-Piera ..... *Professor of Geology in the University of Madrid*
- \*Vize, Rev. J. E., M.A. .... *Rector of Forden, Welshpool*


## CORRESPONDING MEMBERS.

- Askew, Mr. Jas. H. .... *Hilbre Island*
- Griffith, Mr. J. E., F.L.S., F.R.A.S. .... *Vronkeuog, Upper Bangor, N.W.*
- Joachim, Mr. Geo. .... *Dunedin, Otago, New Zealand*
- Leather, Mr. F. S. .... *New Zealand*
- Nixon, Mr. A. J. .... *National School, Manley, Cheshire*
- \*Reade, Mr. Oswald A. .... *Royal Naval Hospital, Gt. Yarmouth*
- \*Rowston, Mr. R. .... *Kingsley, Alton, Hants*
- \*Ruddy, Mr. Thos. .... *Palé, Corwen*
- \*Thomas, Dr. H. .... *The Hydropathic Establishment, Llandudno*
- Tomlin, Mr. J. R. le B., B.A. .... *59 Liverpool Road*
- Walker, Mr. Fred ..... *Heywood, Tenby*
- Wynne, Mrs. Lloyd ..... *Coed Coch, Abergele*
- \*Wilkins, Mr. T. S. .... *Uttoxeter*
- Williams, Mr. G. J., F.G.S. .... *Higher Grade School, Blaenau Festiniog.*

## NOTICE.

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 *THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN MILLS, Chemist, Eastgate Row.*

 *To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.*

## LIST OF MEMBERS.

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*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

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|                                  |                                   |
|----------------------------------|-----------------------------------|
| Acheson, Rev. Canon, M. A.....   | 5 Abbey street                    |
| Acheson, Mr. Maurice .....       | "                                 |
| Acheson, Mr. Guy H.....          | "                                 |
| *Acton, Mr. T. Bennion .....     | Grove road, Wrexham               |
| Adams, Mr. Beresford.....        | 24 Chichester street              |
| Adams, Mr. Geo. F. ....          | Brighton villa, Saughall road     |
| Allen, Mr. Percy K. ....         | 22 Lorne street                   |
| Ambrosioni, Mr. F. A.....        | White Friars House                |
| Appleton, Mr. John.....          | 9 Lorne street                    |
| Archer, Mr. W. E. ....           | Hydraulic Engineering Co, Limited |
| *Arkle, Mr. J. ....              | Diocesan Schools, George street   |
| Arnold, Miss Maggie .....        | 21 Chichester street              |
| Audsley, Mr. Geo. Catherall ...  | Watergate square                  |
| Avery, Mr. John .....            | 4 Bouverie street                 |
| Ayrton, Mrs.....                 | Abbot's Rock, 33 Liverpool road   |
| Ayrton, Mr. Alfred G. ....       | " " "                             |
| Bailey, Mr. H. Grant .....       | Crypt Chambers                    |
| *Baillie, Mr. E. J., F.L.S. .... | Woodbine, Upton park              |
| Baillie, Mrs. ....               | " "                               |
| *Bairstow, Mr. J. ....           | 32 Sealand road                   |
| Baker, Mrs. ....                 | 24 Frodsham street                |
| Baker, Mr. W. H. ....            | "                                 |
| Baker, Mr. J. R. ....            | 48 Bridge street                  |
| Baker, Miss .....                | "                                 |
| *Ballard, Mr. E. G., A.R.S.M. .. | West Lodge, Curzon park           |
| Ballard, Mrs. ....               | " "                               |
| Barber, Mr. G. E.....            | S. Bridget's Rectory              |
| Barber, Mr. John .....           | 13 Bold square                    |
| Barbour, Mr. Geo., J.P. ....     | Bolesworth Castle, Tattenhall     |
| Barbour, Mrs.....                | " " "                             |

|                                                 |                                                         |
|-------------------------------------------------|---------------------------------------------------------|
| Barker, Mr. A.                                  | 6 Abbey street                                          |
| Barnacle, Rev. H. G.                            | The Vicarage, Holmes Chapel, Crewe, R.S.O.              |
| Barnes, Rev. F., B.A.                           | Hope villa, Raymond street                              |
| Barrow, Miss                                    | The Infirmary                                           |
| Barton, Miss                                    | 98 Watergate street                                     |
| Rassett, Miss C. E.                             | 68 Northgate street                                     |
| Bass, Mr. Roger                                 | Newton House, Chester                                   |
| Bass, Mrs.                                      | " "                                                     |
| Baugh, Mr. A. C.                                | 35 Cambrian view                                        |
| Baxter, Mr. Geo.                                | Foregate street                                         |
| *Bedford, Rev. J. L., M.A., F.L.S.              | 10 Abbey square                                         |
| Bedford, Mrs.                                   | " "                                                     |
| Birch, Mr. H. J.                                | Corville, Liverpool road                                |
| Birch, Miss                                     | 18 Upper Northgate street                               |
| Bithell, Mr. W.                                 | Messrs. Beckett & Co., Eastgate row                     |
| Blackburne, Miss G. M.                          | Roodee Lodge                                            |
| Blayney, Mr. A.                                 | 2 City Walls, W.                                        |
| Blayney, Mrs.                                   | " "                                                     |
| Blogg, Rev. H. B., M.A.                         | Frodsham Vicarage, Cheshire                             |
| Blomfield, Admiral                              | { @ Messrs. Woodhead & Co., 44 Charing<br>Cross, London |
| Blower, Mr. T. B.                               | 6 The Groves                                            |
| Blower, Mr. W.                                  | 4 Williams' terrace, Hoole                              |
| Bolland, Mr. Frank                              | 23 Hough green                                          |
| Bonnalie, Mr. G., L.D.S., R.C.S.E.              | 4 Abbey square                                          |
| *Bonnalie, Mr. Fredk. J., L.D.S., R.C.S., Edin. | 4 Abbey square                                          |
| Bowers, Mr. H. R., J.P.                         | Abbot's Lodge, Liverpool road                           |
| Bowers, Mrs.                                    | " "                                                     |
| Bowles, Mr. T. S.                               | 21 Raymond street                                       |
| Box, Mr. Henry                                  | 46 Frodsham street                                      |
| Boyson, Miss Annie H.                           | { Grove House, Larkhall Rise, Clapham,<br>London, S.W.  |
| Brassey, Miss                                   | Rose Hill, Bowdon, Cheshire                             |
| Brewer, Miss E.                                 | 15 Paradise row                                         |
| Brewer, Miss Anne                               | " "                                                     |
| *Broadbent, Mrs.                                | Bache cottage                                           |
| Brown, Mr. C.                                   | The Folly, Flookersbrook                                |
| Brown, Miss L. E.                               | " "                                                     |
| Brown, Mr. W.                                   | 18 Curzon park                                          |
| *Brown, Mr. F. F., M.A.                         | " "                                                     |
| Brown, Miss Margaret                            | 59 Upper Northgate street                               |
| Brown, Miss Marion                              | " "                                                     |
| *Buckler, Rev. J. F., M.A.                      | Bidston Rectory, near Birkenhead                        |
| Buckley, Mr. Wm. Ireland, F.R.G.S.              | The Academy, Winsford, Cheshire                         |
| Bullin, Mr. F., J.P., L.D.S., R.C.S.            | 20 Nicholas street                                      |
| Bullin, Mrs.                                    | " "                                                     |
| Bullin, Miss E.                                 | " "                                                     |
| Burrows, Mr. R.                                 | Railway Inn, Brook street                               |
| Burton, Miss                                    | 98 Watergate flags                                      |
| Butcher, Mr. Jas.                               | 14 Union walk                                           |
| Butt, Miss                                      | 8 Curzon park                                           |
| Butte, Miss                                     | 7 Short place, Garden lane                              |
| Casson, Mr. A. W. H.                            | 6 Lumley road                                           |
| Chalton, Mr. T. W.                              | 7 Ash Grove                                             |
| Chalton, Mrs.                                   | " "                                                     |
| Chapman, Mr. F. W.                              | 42 Tarvin road                                          |
| Campbell, Rev. E. A. Pitcairn, M.A., J.P.       | Vicar's Cross, Chester                                  |

- |                                                       |                                                   |
|-------------------------------------------------------|---------------------------------------------------|
| Chester, The Right Rev. The Lord Bishop of, . . . . . | The Palace, Dee Side                              |
| Clare, Mr. Horatio . . . . .                          | St. John's Schools, Vicar's lane                  |
| Clarke, Miss Sybill . . . . .                         | Stanley House                                     |
| Clarke, Mr. Geo. E. . . . .                           | Barton villa, Curzon park                         |
| Clayton, Mr. C. . . . .                               | The Old Bank                                      |
| Clemence, Mr. S. . . . .                              | 2 Chichester street                               |
| Clough, Miss . . . . .                                | Felsberg, Marmion road, Sefton Park,<br>Liverpool |
| Clough, Mr. G. F. . . . .                             | 2 Hough green                                     |
| Clough, Mrs. . . . .                                  | " "                                               |
| Clutterbuck, Col. . . . .                             | 1 Hough Green                                     |
| Clutterbuck, Miss . . . . .                           | " "                                               |
| *Cochrane, Mr. J. G., M.A. . . . .                    | 7 Upper Northgate street                          |
| Cockrill, Mr. C. P. . . . .                           | Chester road, Saltney                             |
| Coe, Mr. D. . . . .                                   | 26, Lightfoot street, Bishopfields                |
| Coe, Mr. Henry J. . . . .                             | 4 Bold terrace                                    |
| Collinge, Mr. James . . . . .                         | Kinnerton Lodge, Chester                          |
| Comber, Mrs. E. . . . .                               | Holly Bank, Christleton                           |
| Counah, Mr. Jas. . . . .                              | The Laboratory, Somerset House, London, W.C.      |
| *Connor, Mr. Rochfort, F.L.S. . . . .                 | 9 Haddington terrace, Kingstown, Dublin           |
| Coombes, Mr. Jas. . . . .                             | Fern Bank, Upton park, Chester                    |
| Coppack, Mr. Chas. . . . .                            | Derby Cottage, 107 Garden lane                    |
| Cordery, Miss C. . . . .                              | 79 Boughton                                       |
| *Cowan, Mr. E. W., A.M.I.C.E. . . . .                 | 14 St. Ann's square, Manchester                   |
| *Cowap, Mr. C. R. . . . .                             | 22a Cambrian view                                 |
| Cummings, Miss . . . . .                              | King's buildings                                  |
|                                                       |                                                   |
| Dale, Mrs. . . . .                                    | 51 Bridge street row                              |
| Darby, Very Rev. J. L., D.D. . . . .                  | The Deanery                                       |
| Davey, Mr. . . . .                                    | 3 Brighton terrace                                |
| Davey, Mrs. . . . .                                   | " "                                               |
| Davies-Colley, Mr. T., M.D., J.P. . . . .             | " Newton Cottage, near Chester                    |
| Davies-Colley, Mrs. . . . .                           | " " "                                             |
| Davies-Colley, Miss E. C. . . . .                     | " " "                                             |
| Davies, Miss Henrietta . . . . .                      | 69 Boughton                                       |
| Davies, Mr. E. Henry . . . . .                        | 19 Francis street                                 |
| Davies, Mr. Joseph . . . . .                          | " "                                               |
| Davies, Mr. John . . . . .                            | Parr's Banking Co., Chester                       |
| Davies, Mr. J. P. . . . .                             | 75 Crane street                                   |
| Davies, Rev. Clement . . . . .                        | The Vicarage, Rhosesmor, Holywell                 |
| Day, Mr. C. J. . . . .                                | Rowton, Chester                                   |
| Day, Mr. John . . . . .                               | 39 Cambrian view                                  |
| Denson, Mr. W. . . . .                                | 21 Upper Northgate street                         |
| Denson, Mrs. . . . .                                  | " " "                                             |
| Denson, Miss Adelaide . . . . .                       | " " "                                             |
| Denson, Mr. J. Lyon . . . . .                         | " " "                                             |
| Dickson, Mr. Geo. A., J.P. . . . .                    | Springfield, Flookersbrook                        |
| Dickson, Mrs. . . . .                                 | " "                                               |
| Dickson, Miss Lavinia . . . . .                       | " "                                               |
| Dickson, Mr. Jas. . . . .                             | Brookfield House, Chester                         |
| Dickson, Mr. W. A. . . . .                            | Newton Villa, Chester                             |
| Dickson, Mr. S. J. R. . . . .                         | Mayfield House, Hoole                             |
| *Dobie, Mr. W. M., M.D., J.P. . . . .                 | 23 Upper Northgate street                         |
| Dobie, Miss . . . . .                                 | " " "                                             |
| *Dobie, Mr. W. H., M.B. . . . .                       | 22, Upper Northgate street                        |
| Dod, Rev. C. Wolley, M.A., J.P. . . . .               | Edge Hall, Malpas                                 |
| Dod, Miss Wolley . . . . .                            | " "                                               |

- Dodd, Mr. W. .... 143 St. Anne street  
 Duckworth, Mr. Henry ..... Christ Church Vicarage  
 Dugdale, Mr. John ..... Spital field, Boughton  
 Dutton, Mr. J. Rowe ..... 6 Stanley place  
 Dutton, Mrs. .... "  
 Dutton, Mr. George..... Curzon House  
 Dutton, Mrs..... "  
 Dutton, Mrs. G. W. .... 15 Curzon park  
 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 Dutton, Mrs. .... "  
 \*Dutton, Mr. F. V. .... 2 Victoria pathway, Queen's park  
 Dutton, Mr. Chas., J.P. .... Queen's park  
  
 Edwards, Mr. J. E., J.P. .... Abbot's Mount, Liverpool road  
 Edwards, Mr. J. .... 74 Foregate street  
 Elliott, Mr. John, M.D., B.S., B.Sc... White Friars Cottage  
 Elliott, Miss ..... "  
 Enock, Mr. C. R. .... 47 Parkgate road "  
 Enock, Mrs. .... "  
 Evans-Lloyd, Col., J.P. .... Stanley House  
 \*Evans, Mr. F. .... The Eastgate  
 Evans, Miss ..... Eversley House, Eversley park  
 Evans, Rev. T. J., M.A..... Hargrave Rectory, near Chester  
 Evans, Miss J. E. .... The Limes, 5 Lumley road  
 Evans, Miss Agard ..... 14 Chichester street  
 Ewen, Miss ..... Bridge street row  
 Ewing, Mr. C. A. .... 3 Brookside villas, Flookersbrook  
 Ewing, Miss ..... Golden Grove, Hoole road  
  
 Farmer, Mr. Richard ..... 36 Liverpool road  
 Farrimond, Mr. F. T. .... Sunnyside, Boughton  
 \*Fawcus, Mr. W. P. J., C.E. .... Cleveland, Charlton Drive, Sale  
 Feilden, Miss ..... Mollington Hall, Chester  
 \*Feltoe, Rev. C. L., M.A. .... The King's School  
 Ffoulkes, His Honor Judge Wynne, M.A.. Upper Northgate street  
 Foulkes, Mr. Thomas B., Junr... 8 Burlington road, Ipswich  
 Finchett, Mr. W. H. .... Savings' Bank House, Grosvenor street  
 Firth, Mr. N. C. .... 125 Foregate street  
 Fish, Mrs. .... Arnold House, Parkgate road  
 \*Fish, Rev. A. H., B.A., B. Sc... "  
 Fleet, Mr. H. .... 76 Lower Bridge street "  
 \*Fletcher, Mr. P. H. .... Woodbrae, Curzon park  
 Fletcher, Miss ..... "  
 Fletcher, Miss Eva B. .... 18 Upper Northgate street  
 Fluitt, Miss ..... Grey friars  
 Fluitt, Miss F. C. .... "  
 Footner, Mrs. .... 4 King's buildings  
 Fox, Mr. Francis, C.E. .... Mount Alyn, Rossett, Wrexham  
 Francis, Mr. F. E. .... Kilmorye park, Hoole  
 Frater, Mr. G. .... The Bank, Wrexham  
 Frater, Mr. Jas. .... Tarvin road  
 Frazer, Miss ..... King's buildings  
 Freeman, Mr. C. E. .... 16 Lorne street  
 Frith, Mr. Philip J. .... 21 Tarvin road  
 Frith, Mr. Jas. N. .... "  
 Fromont, Mr. W. H. .... 15 Tarvin road  
 Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
 Frost, Lady ..... "  
 Frost, Mr. J. M. .... Dee Lodge "



|                                                |    |                                     |
|------------------------------------------------|----|-------------------------------------|
| Frost, Mr. T. Gibbons.....                     | 2  | Richmond place                      |
| Frost, Mrs. ....                               | "  | "                                   |
| Gardner, Mrs. W. A. ....                       |    | Redland House, Hough green          |
| Gardner, Miss Constance .....                  | "  | "                                   |
| Gardner, Miss Mabel .....                      | "  | "                                   |
| Gardner, Mr. Stanley .....                     | "  | "                                   |
| Gardner, Mr. E. ....                           | 3  | Lumley road, Liverpool road         |
| Gardner, Mr. Jas. ....                         |    | Tattenhall, Chester                 |
| Garnett, Mr. W. ....                           |    | Bridge street row                   |
| Garnett, Mrs. ....                             |    | The Rectory, Christleton            |
| Garside, Mr. F. ....                           |    | Hamilton street, Hoole              |
| Gibson, Mr. J. M. ....                         |    | Buckley, <i>via</i> Chester         |
| Gibson, Miss Ada. ....                         |    | Crane street                        |
| Gilbert, Mr. Leonard, J.P. ....                |    | Egerton villa, Liverpool road       |
| *Giles, Rev. W. T., M.A., F.R.G.S. ....        |    | The Asylum, Chester                 |
| Glascodyne, Miss .....                         | 11 | Cambrian view                       |
| Golder, Mr. S. ....                            | 41 | Liverpool road                      |
| Goodhart, Mrs. E. S. ....                      | 96 | Watergate flags                     |
| *Granger, Mr. F. M., M.R.C.S., L.R.C.P.L. .... | 18 | Nicholas street                     |
| Grantham, Rev. H. ....                         |    | S. Mary's Rectory                   |
| Gregg, Mr. W. ....                             | 2  | Watergate square                    |
| Griffith, Mr. G. R. ....                       | 30 | Hough green                         |
| Griffith, Mrs. ....                            | "  | "                                   |
| Griffith, Miss .....                           | "  | "                                   |
| Griffith, Mr. N. de B. ....                    | 87 | Harley street, London, W.           |
| Griffiths, Mr. Jno. ....                       |    | Upton park                          |
| Griffiths, Mrs. ....                           | "  | "                                   |
| Griffiths, Mr. T. W. ....                      | 5  | Hough green                         |
| Griffiths, Miss .....                          | 42 | Watergate street                    |
| Griffiths, Mr. John .....                      | "  | "                                   |
| *Griffiths, Rev. T. Turner, M.A. ....          |    | Derby villa, Clifton Wood, Bristol  |
| *Grocott, Mr. E. A. ....                       |    | Queen's park                        |
| *Hall, Mr. J. H. A. ....                       |    | Old Bank House                      |
| Hall, Mrs. ....                                | "  | "                                   |
| Hall, Miss Cecile .....                        | "  | "                                   |
| Hall, Miss Josephine .....                     | "  | "                                   |
| Hall, Major-Gen. Julian H. ....                |    | Government House                    |
| Hall, Mrs. ....                                | "  | "                                   |
| Hall, Mr. M. J. ....                           | "  | "                                   |
| Hamel, Miss .....                              | 9  | Abbey street                        |
| Hamilton, Mr. A., M.R.C.S. ....                | 16 | White friars                        |
| Hankey, Mr. Lee .....                          |    | Rock Mount, Liverpool road          |
| Hankey, Miss C. M. ....                        | "  | "                                   |
| Hannigan, Mr. Jno. ....                        |    | Sunny Bank, Queen's park            |
| Hardy, Mr. J. E. ....                          |    | The Blue Coat School, The Northgate |
| Hardy, Mrs. ....                               | "  | "                                   |
| Harrison Miss .....                            | 20 | Lorne street                        |
| Harrison, Mrs. Jno. ....                       |    | Ashton House, New Crane street      |
| Harrison, Mr. N. ....                          |    | Highfield, Curzon park              |
| Harrison, Mrs. ....                            | "  | "                                   |
| Haswell, Mr. G. H. ....                        |    | Ashville, Helsby                    |
| Henderson, Mr. J. E. ....                      | 19 | Pathway, Queen's park               |
| Henderson, Miss M. H. ....                     | "  | "                                   |
| Henderson, Mr. Wm. ....                        | 11 | Union walk                          |

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| Henshaw, Mr. T. ....                 | The Hollies, Liverpool road           |
| Henshaw, Mr. T. A. ....              | " "                                   |
| Henshaw, Miss Edith E. ....          | " "                                   |
| Henshaw, Miss Florence M. ....       | " "                                   |
| Henson, Miss E. ....                 | The Studio, Bridge street row         |
| Heppel, Miss. ....                   | 8 Hough green                         |
| Herne, Colonel ....                  | Delamere House, Liverpool road        |
| Hewitt, Mr. David L. ....            | Abbey House, Northgate street         |
| Hickman, Mr. F. F. ....              | 8 Northgate street                    |
| Hickman, Miss ....                   | 17 The Groves                         |
| Higgins, Miss Eva ....               | The Manor, Overleigh                  |
| Higgins, Miss Millie. ....           | " "                                   |
| Higgins, Mr. W. H. ....              | St. Martin's in-the-fields            |
| Hignett, Mrs. ....                   | 14 Hough green                        |
| Hignett, Mr. A. H. ....              | " "                                   |
| Hignett, Mrs. T. H. ....             | 18 Hough green                        |
| Hillyard, Rev. Canon, M.A. ....      | Okeford, Bampton, N. Devon            |
| Hincks, Mr. J. W. ....               | 61 Northgate street                   |
| Hincks, Mr. H. T. ....               | " "                                   |
| Hobday, Mr. J. ....                  | Alexandra villa, Liverpool road       |
| Hobday, Mr. E. ....                  | " "                                   |
| Hobday, Mr. Jas. ....                | 22 The Groves                         |
| *Hodges, Mr. W. ....                 | 31 Hough Green                        |
| Hodges, Mr. T. R. ....               | " "                                   |
| Hodges, Miss A. G. ....              | " "                                   |
| Hodkinson, Mr. E. ....               | 35 Pepper street                      |
| *Holland, Mr. R., M.R.A.C. ....      | Mill Bank House, Frodsham             |
| Holme, Rev. A. P., M.A. ....         | The Rectory, Tattenhall               |
| Holmes, Mr. J. G. ....               | Belmont, Curzon park                  |
| Hoole, Rev. W. Spooner, M.A. ....    | Thornton Rectory, near Chester        |
| Hopkins, Mrs. ....                   | 32 Queen street                       |
| Horabin, Mr. T. ....                 | 16 Newgate street                     |
| Horton, Mr. H. R. ....               | 74 Brook street                       |
| Hostage, Mr. Geo. B. ....            | 28 Eaton road                         |
| Hostage, Mrs. ....                   | " "                                   |
| Hostage, Miss ....                   | 22 Eaton road                         |
| Howson, Rev. J. F., M.A. ....        | Egerton House, Upper Northgate street |
| Howson, Miss ....                    | " "                                   |
| Howson, Miss M. ....                 | " "                                   |
| Howson, Rev. G. J., M.A. ....        | The Vicarage, Crewe                   |
| Hudson, Mrs. R. S. ....              | Bache Hall, Chester                   |
| Hughes, Mrs. McKenny ....            | 4 Cintra terrace, Cambridge           |
| Hughes, Mr. Thos. Cann, B.A. ....    | Town Hall, Manchester                 |
| *Hughes, His Honour Judge, Q.C. .... | Uffington House, Dee hills            |
| Hughes, Mrs. ....                    | " "                                   |
| Hughes, Mr. John ....                | City road                             |
| Humberston, Miss. ....               | Newton Hall, Chester                  |
| Humphreys, Mr. E. Noel ....          | 8 Derby place, Hoole                  |
| Humphreys, Miss ....                 | Bridgegate House                      |
| Jackson, Mr. Roger. ....             | 21 Hough green                        |
| Jackson, Miss ....                   | " "                                   |
| Jacob, Rev. Joseph, M.A. ....        | Whitewell Rectory, Whitchurch (Salop) |
| Jayne, Mr. Ernest. ....              | The Palace, Dee side                  |
| *Jebb, Mr. G. R., C.E. ....          | Fairyfield, Great Barr, Birmingham    |
| *Jeffs, Mr. O. W. ....               | 12 Queen's road, Rock Ferry           |
| Jennings, Mr. Constantine ....       | The Studio, Bridge street             |
| Jennings, Mrs. ....                  | " "                                   |

- Jephcott, Mr. Charles ..... 13 Lorne street (North)  
 Johnson, Major ..... 9 Upper Northgate street  
 Johnson, Mrs. .... 11 Bertram road, Sefton park, Liverpool  
 Johnson, Mr. .... St Paul's School, Boughton  
 \*Johnson, Mr. M., L.D.S.I. .... 9, York villas, Lorne street  
 Jones, Miss Maggie ..... 1 King's buildings  
 Jones, Miss S. H. .... 13 Stanley place  
 Jones, Miss ..... The Northgate  
 Jones, Mr. F. .... 59 Bridge street row  
  
 Keeble, Rev. S. E. .... 3 Hawthorne villas, Flookersbrook  
 Kelham, Mr. Augustus ..... 3 Eversley park, Liverpool road  
 Kelly, Miss E. J. .... 12 Trinity street  
 Kelsall, Miss M. .... Abbot's court, Liverpool road  
 Kemp, Mr. Geo. .... 59 Bridge street  
 Kemp, Mrs. .... " "  
 Kenyon, Mr. G. A., M.B. .... Flookersbrook  
 King, Mr. H. W., M.D. .... 18 Newgate street  
 King, Mrs. .... " "  
 Kingsley, Miss ..... Tachbrook Mallory, Leamington  
 Kingsley, Mr. G. A. .... " "  
 Kinsey, Mr. T. E. Morris ..... Westminster buildings "  
 Kirkpatrick, Mrs. .... Ash Grove  
 Knowles, Mr. E. R. .... Grosvenor street  
 Kynnersley, Mr. E. M. Sneyd .. 24 Castle street  
  
 Lacy, Mrs. .... Moor Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. A., Junr. .... " "  
 Lamont, Miss ..... " "  
 Latham, Mr. J. S. .... Green Bank, Liverpool road  
 \*Lawrence, Dr. A. .... The Asylum, Chester  
 Lees, Mr. W., M.R.C.S. .... Bars' House, Boughton  
 Leighton, Mr. A. G. .... 8 Bold terrace  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lightfoot, Mrs. W. M. .... York villas, Liverpool road  
 Linnell, Mr. Geo. F. .... The Old Bank, Chester  
 Lipsham, Mr. F. .... 17 Pepper street  
 Littler, Miss ..... 17 Eaton road  
 Lloyd, His Honour Sir Horatio .. Stanley place  
 Lloyd, Lady ..... " "  
 Lloyd, Mr. E. Honoratus ..... 32 Prince's square, Bayswater, London  
 Lloyd, Mrs. E. .... Abbot's mount, Liverpool road  
 Lloyd, Miss M. E. .... 20 Lorne street  
 \*Lockwood, Mr. T. M., F.R.I.B.A. .. 80 Foregate street  
 Lomax, Mr. F. T. .... 12 Bold terrace  
 Lowe, Mr. G. B. .... 25 Hough green  
 Lowe, Miss C. H. .... " "  
 \*Lowe, Mr. W. F., A.R.S.M., } 21, Granville road, Cambrian view  
     F.I.C., F.C.S.               }  
 Lowe, Mrs. .... " "  
 Lowe, Mr. Jas. F., B.A. .... Dec Banks "  
 \*Lucas, Mr. A. W., F.G.S. .... 7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Luxmoore, Mr. E. B., J.P., F.G.S. .. Bryn-Asaph, St. Asaph  
  
 \*Macdonald, Mr. G. .... 3 Abbey square  
 Manley, Mr. H. .... Aston, Nantwich

- \*Manning, Mr. J. B. .... The Governor's House, H.M. Prison,  
Pentonville, London
- Manning, Miss Edith ..... 18 Upper Northgate street
- Mann, Mr. A., M.B. .... Pepper street
- Mannington, Mr. Herbert T. .... Flint
- Marchant, Mr. W. H. .... Whitefriars House
- Marsden, Miss ..... 6 Grosvenor park road
- Mason, Mr. F. B. .... 3 Lorne street (North)
- Massie, Admiral ..... 3 Stanley place
- Massy Miss ..... Mansfield lodge, Hough green
- Mawdsley, Miss M. M. .... 8 Eaton road
- Mawdsley, Miss J. G. .... "
- Mawdsley, Mr. W. H. .... "
- McEwen, Mrs. .... 26 Nicholas street
- McKindlay, Mr. Andrew .... Aldford, Chester
- Meakin, Mrs. .... Boughton lodge, Chester
- \*Mills, Mr. John ..... 4 Eastgate row
- Mills, Mrs. .... "
- \*Miln, Mr. G. P. .... 27 Chichester street
- Miln, Mrs. .... "
- Milne, Mr. .... 8 Ash "Grove, Wrexham road
- Milne, Mrs. .... "
- Minshull, Mr. E. .... The Northgate
- Minshull, Miss ..... "
- Montgomery, Rev. J. K. .... Abbot's villas, Liverpool road
- Moreton, Mr. J. E., F.R.C.S. .... Tarvin
- Moreton, Mrs ..... "
- \*Morris, The Rev. Canon, D.D. .... Eaton, Chester
- Morris, Mr. Chas. .... 3 Sumpter pathway, Hoole
- Morris, Miss M. .... Wilton House, Pepper street
- Musgrave, Mrs. .... 45 White friars
- Nelson, Mrs. .... 98 Watergate street
- Nelson, Miss ..... "
- \*Newstead, Mr. R., F.E.S. .... The Grosvenor Museum
- Nicholls, Mr. G. F. .... 12 Chichester street
- Nicholls, Miss ..... Deaconess House, Nicholas street
- Nicholson, Mr. J. M. .... Little Sutton, Chester
- \*Okell, Mr. W. H. .... 1 Northgate street
- \*Okell, Mr. E. W. .... 22 Northgate street
- Okell, Mr. P. H. .... The Cross
- \*Okell, Miss M. H. .... 6 Curzon park
- Okell, Miss J. .... "
- Okell, Miss A. .... "
- Oldfield, Mrs. .... 68 Northgate street
- Oldfield, Miss. .... Bryn Clwyd, St. Asaph
- Oldmeadow, Mr. Geo. E. .... 22 Lorne street
- Orton, Mr. R. O., J.P. .... Tattenhall, Chester
- Parkes, Mr. A. .... Bridge street row
- Parkes, Mrs. .... "
- Parry, Mrs. C. .... 24 Frodsham street
- Parry, Mr. Gilbert ..... Farndon Hall, Chester
- \*Parry, Mr. T. S., M.B. .... 10, Upper Northgate street

|                                |    |                                       |
|--------------------------------|----|---------------------------------------|
| Parry, Mr. Morris .....        | 21 | Victoria road                         |
| Partington, Mr. John T. ....   |    | Denbigh villas, Cheyney road          |
| Payne, Miss .....              | 4  | Abbey green                           |
| Payne, Miss A. ....            |    | "                                     |
| Phillipson, Mr. J. ....        | 12 | "Liverpool" road                      |
| Phillipson, Mr. H. G. ....     |    | "                                     |
| Podmore, Miss .....            | 3  | Eastern pathway, Queen's park         |
| Porter, Mrs. ....              |    | Crowthorne, Childer Thornton, Chester |
| Potts, Miss A. M. ....         |    | Heron bridge                          |
| Potts, Miss C. L. ....         |    | "                                     |
| Potts, Capt. H. J., J.P. ....  |    | Glanrafon, Mold                       |
| Powell, Mr. E. ....            |    | Eastgate row                          |
| Powell, Mrs. ....              |    | Springfield, Neston                   |
| Powell, Mr. T. J. ....         | 14 | Newgate street                        |
| Powles, Mr. A. E. ....         | 6  | Abbey square                          |
| Preston, Mr. F. M. ....        |    | Abbot's grange, Liverpool road        |
| Price, Mr. Paul .....          |    | Bryntirion, Chichester street         |
| *Price, Mr. Walmsley .....     | 26 | Watergate row                         |
| Price, Mrs. ....               |    | "                                     |
| Price, Miss .....              | 53 | Rutland terrace, Parkgate road        |
| Prichard, Mr. Geo. ....        | 9  | The Groves                            |
| Prichard, Miss .....           |    | "                                     |
| Pye, Mr. Jas. ....             |    | Clovelly "House, Eversley park        |
| Pye, Mrs. ....                 |    | "                                     |
| *Pye, Mr. T. E. ....           |    | Gasworks, Shrewsbury "                |
| Rayner, Miss .....             |    | Ash grove, Wrexham road               |
| Ray, Miss .....                | 3  | Eastern pathway, Queen's park         |
| Reade, Mr. Albert William .... | 11 | Lorne street                          |
| Reade, Mr. Walter .....        |    | "                                     |
| Richardson, Mr. A. ....        |    | Bridge street row                     |
| Ribton, Mrs. ....              |    | Golden grove, Hoole road              |
| Roberts, Mr. J. ....           |    | The North & South Wales Bank          |
| Roberts, Miss .....            |    | Bank Cottage, Neston                  |
| Roberts, Miss M. ....          | 8  | Nicholas street                       |
| Roberts, Mr. J., M.D. ....     | 8  | Abbey square                          |
| Roberts, Mr. Hugh .....        |    | Crypt Chambers                        |
| Roberts, Miss Johnson .....    | 7  | Lumley road, Liverpool road           |
| Roberts, Mr. P. Lyddon .....   | 1  | Bold terrace                          |
| Roberts, Miss .....            |    | Boughton lodge, Chester               |
| Roberts, Miss .....            |    | Overleigh, Hough green                |
| Roberts, Miss C. F. ....       |    | "                                     |
| Rogers, Mr. James .....        |    | The Cross                             |
| Rogers, Mr. Jno. ....          |    | Watergate House                       |
| Rogers, Mr. W. ....            |    | "                                     |
| Rogerson, Mr. G. H. ....       | 4  | Nicholas street                       |
| Royle, Mrs. T. V. ....         |    | Queen's park                          |
| Royle, Mr. T. R. P. ....       |    | Hough Green House                     |
| Royle, Mrs. ....               |    | "                                     |
| Rushton, Mr. F. Lever .....    |    | Thornton Grange, Gresford             |
| Ryan, Mr. Thos. ....           |    | Castle Hill House, Flint              |
| Sandbach, Mr. S. H., J.P. .... |    | Cherry Hill, Malpas                   |
| *Sandford, Mrs. ....           |    | Queen's School                        |
| Sant, Mr. T. ....              |    | Frodsham                              |
| Schröder, Mr. W. G. ....       |    | Queen's Park Farm                     |
| Scotland, Colonel .....        |    | Eccleston Hill, Chester               |
| Scott, Mr. John .....          | 19 | Chichester street                     |



|                                        |                                  |
|----------------------------------------|----------------------------------|
| Taylor, Mrs. J. W. ....                | 8 Ash Grove                      |
| Tennant, Mrs. ....                     | City walls (South)               |
| Tennant, Miss ....                     | " "                              |
| Thomas, Mr. E. ....                    | 18 Pepper street                 |
| Thomas, Dr. E. J. Haynes.....          | " "                              |
| Thomas, Miss ....                      | " "                              |
| Thomas, Miss M. ....                   | " "                              |
| Thomas, Miss F. M. ....                | " "                              |
| *Thomas, Mr. H. ....                   | 12 Neville Crescent, Llandudno   |
| Thomas, Mr. Maurice.....               | 1 Coal Exchange                  |
| Thomas, Mr. Felix ....                 | The Industrial Schools, Boughton |
| Thomas, Mr. E. H. ....                 | " "                              |
| Thompson, Mrs. H. ....                 | Brightholme, Curzon park "       |
| Thomson, Miss I. ....                  | Cambrian view                    |
| Thornthwaite, Miss E. M. ....          | @ Mrs. Hincks, Northgate street  |
| Tilston, Miss ....                     | 1 King's buildings               |
| Tinkler, Mr. G. ....                   | 45 Nicholas street               |
| Tomkinson, Mr. Jas., J.P. ....         | Willington Hall, Chester         |
| Tomlin, Mrs. ....                      | Thorpe villa, Liverpool road     |
| Tomlin, Miss Lilian Ethel ....         | " " "                            |
| Tomlin, Miss Edith Clarabel ....       | " " "                            |
| Townshend, Mr. C. W., J.P. ....        | Trevallyn, Wrexham "             |
| Trafford, Mr. A. ....                  | 48 Upper Northgate street        |
| Trelawny, Mr. H. D., J.P. ....         | Shotwick park, Chester           |
| Trelawny, The Hon. Mrs. ....           | " "                              |
| Tyrer, Mrs. Alfred ....                | Plas Newton, Chester             |
| Vernon, Miss ....                      | Bache Cottage, Chester           |
| *Vincent, Mr. W. ....                  | Brook lodge, Brook lane          |
| Vincent, Mrs. ....                     | " "                              |
| Wakefield, Mr. T. ....                 | 3 Lorne street                   |
| Wakefield, Miss E. ....                | " "                              |
| *Walker, Mr. A. O., J.P., F.L.S. ....  | Nant-y-Glyn, Colwyn Bay          |
| Walker, Mrs. ....                      | " "                              |
| Walker, Miss ....                      | 12 Liverpool road "              |
| *Ward, Mr. J. C. ....                  | Bryn Estyn, Hough green          |
| Ward, Miss ....                        | " " "                            |
| Way, Mr. N. A. E. ....                 | 1 Stanley street                 |
| Weaver, Mr. W. M. ....                 | Westminster buildings            |
| *Webster, Mr. G. Watmough, F.C.S. .... | 5 Eversley park, Liverpool road  |
| Webster, Mrs. ....                     | " " "                            |
| Webster, Mr. Sirrell M. ....           | " " "                            |
| Webster, Miss Amy B. ....              | 52 Watergate street              |
| Webster, Miss Janet ....               | " "                              |
| Wells, Mr. E. ....                     | Eccleston, Chester               |
| Whalley, Mr. Fred. H., P.A.S.I. ....   | 98 Church street, Birkenhead     |
| White, Miss E. ....                    | 5 Abbey street                   |
| Whiteley, Mr. F. ....                  | Helsby, Warrington               |
| Wilbraham, Miss E. ....                | 5 King's buildings               |
| Wilbraham, Miss F. ....                | " "                              |
| Wilcock, Mr. T. M. ....                | 26 Newgate street                |
| Wilkinson, Mr. R. ....                 | 17 Victoria road                 |
| Wilkinson, Mr. J. R. ....              | " "                              |
| Williams, Mr. J. E. ....               | 44 Upper Northgate street        |
| Williams, Mr. C. R. ....               | The Mount, Waverton              |
| Williams, Mr. John ....                | Aber Cottage, Saltney            |

|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| Williams, Rev. J. R., M.A. ....     | Pulford Rectory, Wrexham                           |
| Williams, Miss .....                | 8 Hamilton street, Hoole                           |
| Williams, Mr. Pryce H. ....         | " " "                                              |
| Williams, Miss .....                | 31 Hough green                                     |
| Williams, Mr. R. J. ....            | 6 Eaton road                                       |
| Williams, Miss Aldersey .....       | 96 Watergate flags                                 |
| Williams, Mr. Walter D. ....        | 62 Walter street                                   |
| Wiseman, Mr. C. ....                | The Poplars, Dee banks                             |
| Wiseman, Mr. Henry .....            | " "                                                |
| Wood, Mr. R. Stewart .....          | Eccleston, Chester                                 |
| Wood, Mrs. ....                     | 28 Queen street                                    |
| Wood, Miss .....                    | " "                                                |
| Woodcock, Mr. L. ....               | Connah's Quay                                      |
| Woodfin, Miss .....                 | 26 Lorne street                                    |
| *Wright, Mr. J. M., A.M.I.C.E. .... | Water Engineer's Office, Dale street,<br>Liverpool |
| Wright, Mr. A. J. ....              | 11 Bridge street row                               |
| Wright, Mrs. ....                   | " "                                                |
| *Wynne, Mr. Geo. F. ....            | Plas Gwyn, Minera, Wrexham                         |
| Wynne, Mr. J. H. ....               | 72 Tarvin road                                     |
| Yeadon, Mr. Thos. ....              | 28 St. Anne street                                 |





*The following Books have been added to the Library since  
the last Annual Report was issued:*

### BOTANICAL SECTION.

- B 201 Grevillea; a Quarterly Record of Cryptogamic Botany and its Literature. Nos. 49 and 50, and 62 to 82 inclusive. *Presented by A. O. Walker, Esq.* ..... 1880-88

### GEOLOGICAL SECTION.

- G 160 *Congrès Géologique International, Compte Rendu de la 4<sup>me</sup> Session, Londres, 1888* ..... 1891
- G 152 Eighth and Ninth Annual Reports of the United States Geological Survey, 1886-87 & 1887-88, 3 Parts ..... 1889-90
- G 162 Morton (G. H.) The Geology of the Country around Liverpool, including the North of Flintshire. *Presented by the Author* ..... 1891
- G 131 Proceedings of the Geologists' Association, Vol. XI., 3 Parts; Vol. XII., 2 Parts ..... 1890-91
- G 95 Proceedings of the Liverpool Geological Society, 1889-90. Part 2, Vol. VI. .... 1890
- G Strahan (A.) The Geology of the neighbourhoods of Flint, Mold, and Ruthin. *Memoirs of the Geological Survey. Presented by the Author* ..... 1890
- G Transactions of the Liverpool Geological Association, Vols. IX and X., 1888-90 ..... 1890
- G 116 Transactions of the Manchester Geological Society, Vol. XX., Parts 18 to 21; Vol. XXI., Parts 1 to 10 ..... 1890-91
- G 86 Vol. XLIV. of the Palæontographical Society, issued for 1890, containing—  
     Nicholson's Stromatoporoids  
     Sladen's Cretaceous Echinodermata (Asteroidea)  
     Buckman's Inferior Oolite Ammonites  
     Whidborne's Devonian Fauna of the South of England  
     Duncan's Supplement to the Fossil Corals (Title pages, &c.)

## MICROSCOPICAL SECTION.

- M Transactions and Annual Report of the Manchester Microscopical Society ..... 1890
- M<sub>36</sub> Quekett Microscopical Club's Journal, Vol. IV., Nos. 28 and 29. *Presented by Dr. Stolterfoth*

## ZOOLOGICAL SECTION.

- Z 84 Blackwall (J.) History of the Spiders of Great Britain and Ireland ..... 1861
- Z 85 Cuvier (G.) *Recherches sur les Ossements Fossiles*, 11 Vols. *Presented by Mrs. Chas. Kingsley* .. 1834-36
- Z 86 Journal of the Linnean Society, Parts 73 to 147 inclusive (Nos 124, 125, and 145 missing.) *Presented by G. Claridge Druce, Esq.*..... 1877-91
- Z Newstead (R.) On New Species of Coccidæ; On Wasps' Nests' Parasites (found in the Society's District) ..... 1891
- Z 87 Transactions of the Entomological Society of London for the year 1890, Parts 1 to 5; and 1891, Parts 1 and 2 ..... 1891
- Z Transactions of the Linnean Society, Second Series, Vol. I., No. 8; Vol. II., Parts 1 to 13 (Part 12 missing): Vol. III., Parts 1 to 6; Vol. IV., Parts 1 to 3; Vol. V., Parts 1, 2, 14, 17, & 18. *Presented by G. Claridge Druce, Esq.* ..... 1879-88
- Z Walker (A. O.) On the Higher Crustacea of Liverpool Bay, taken in 1889; On *Pherusa fucicola* (Leach.) *Presented by the Author*.... 1890

## MISCELLANEOUS SECTION.

- X 28 Annual Reports and Abstract of Papers of the Brighton and Sussex Natural History and Philosophical Society for 1888-90 ..... 1890
- X Annual Report and Proceedings of the Liverpool Science Students' Association, Session 1889-90
- X 99 Annual Reports and Transactions of the North Staffordshire Naturalists' Field Club and Archæological Society, 1890 and 1891 .....

- X 107 Annual Report of the Board of Regents of the  
Smithsonian Institution, 1886, 1 Part; 1887,  
2 Parts; 1888, 2 Parts; 1889, 1 Part ..... 1889-90
- X Bulletin of the Minnesota Academy of Natural  
Sciences, Vol. III., No. 1, 1883-86 ..... 1889
- X Fourth Annual Report of the Liverpool Marine  
Biological Station on Puffin Island ..... 1891
- X Journal of the Elisha Mitchell Scientific Society  
(U.S.A.), 1889, Vol. VI., Part 2 ..... .
- X Midland Naturalist, 4 Vols., 1879 to 1882.  
*Presented by Mrs. Giles Griffith* ..... .
- X North American Fauna, Nos. 3 and 4. (U.S.  
Department of Agriculture) ..... 1890
- X Proceedings of a Government Conference on  
Silk, held at Calcutta, January, 1886. *Presented  
by T. Wardle, Esq.* ..... .
- X Proceedings of the Holmesdale Natural History  
Club for the years 1888 and 1889 ..... 1890
- X 26 Proceedings of the Liverpool Naturalists' Field  
Club for 1890 ..... 1891
- X *Pubblicazioni della Specola Vaticana* (Rome) .... 1891
- X 29 Report and Proceedings of the Manchester Field  
Naturalists' and Archæologists' Society for  
1889 ..... 1890
- X Report and Proceedings of the Reading Literary  
and Scientific Society ..... 1890
- X Report and Transactions of the Cardiff  
Naturalists' Society, 2 Parts ..... 1889-90
- X Report and Transactions of the Guernsey Society  
of Natural Science and Local Research, 1889 1890
- X Report of the British Association, 1890 ..... 1891
- X Report of the Marlborough College Natural  
History Society, 1889 ..... 1890
- X 36 The Essex Naturalist (Journal of the Essex  
Field Club), April 1890, to May 1891 ..... .
- X Transactions and Report of the Nottingham  
Naturalists' Society, 1889 and 1890 ..... .
- "The Naturalist," the Monthly Parts of .....



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## THE LIBRARY

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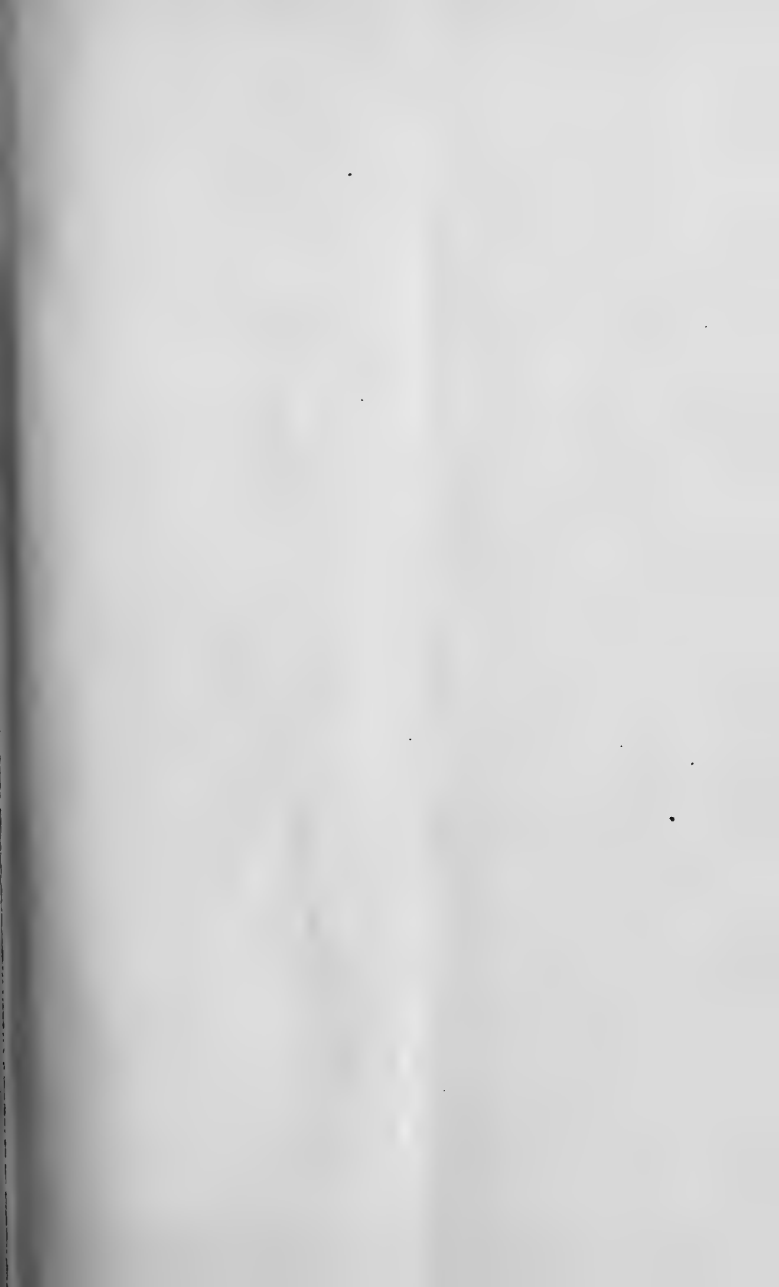
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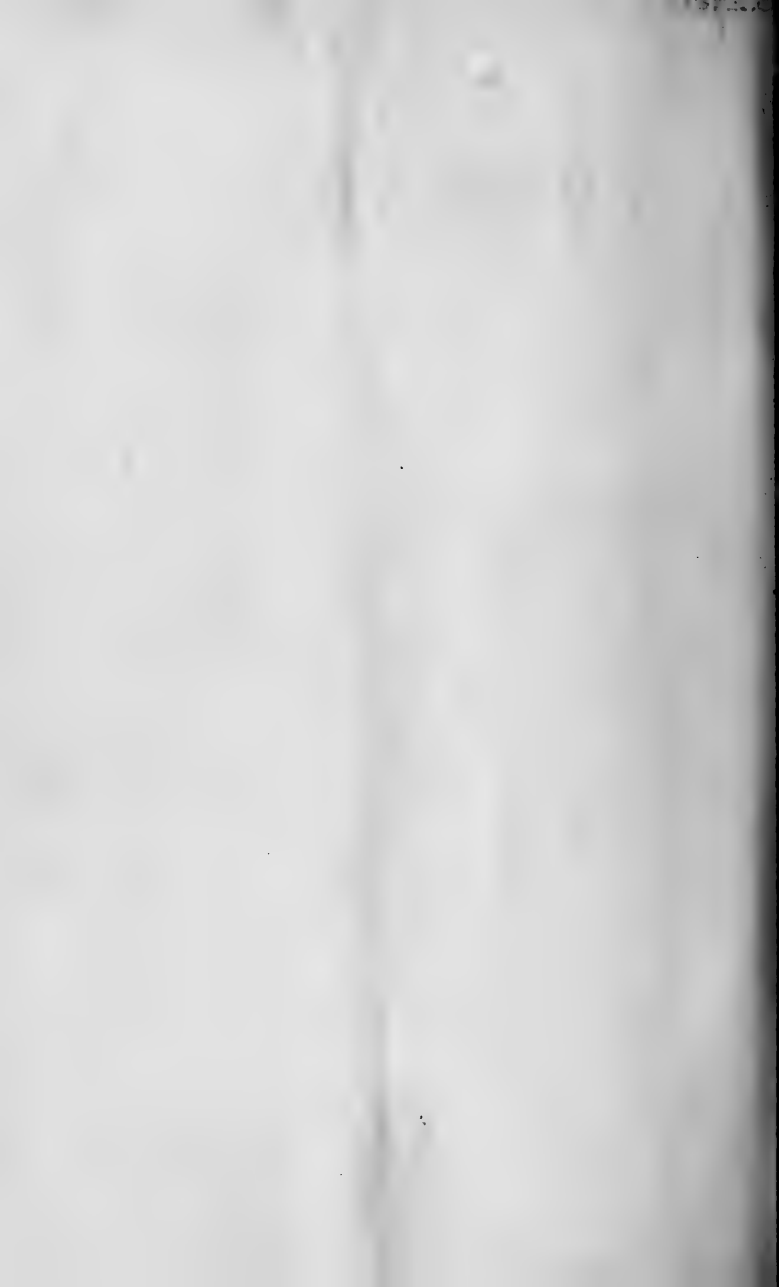
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TWENTY-FIRST  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS,  
FOR THE YEAR 1891-92.



CHESTER:  
PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCXXII



CHESTER SOCIETY  
OF  
NATURAL SCIENCE AND LITERATURE

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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TWENTY-FIRST  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS FOR 1891-92,

AND THE  
LIST OF MEMBERS FOR 1892-93,

ALSO  
A LIST OF THE KINGSLEY MEMORIAL PRIZES  
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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its object be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in a Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Second, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section, may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting which will be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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YOUR Committee, in presenting this their Annual Report, beg to remind the Members of the Society that this is their Twenty-first Anniversary. In one sense the Society attains its majority, and in doing so we can only trust it has attained that maturity which, profiting by experience, may give it courage to enter on its future with renewed activity and zeal. The past twenty-one years have brought us in contact with great changes, but we still have amongst us many of those who shared our tentative efforts in the old Bishop's Palace, where now stands the King's School. This infancy of the Society was stimulated by the presiding genius and enthusiasm of our Founder, CHARLES KINGSLEY. In 1876 PROF. T. McKENNY HUGHES was elected President of the Society. By this time we had moved into the Albion Rooms, Lower Bridge Street, where much good work was done and many admirable Lectures delivered, and on the whole we may be said to have passed a vigorous boyhood. In 1886, by steady effort and the generous aid of patrons and friends, we attained the sum of our ambition, a Museum, in which to house and preserve our local collections, and in which we have also secured appliances and conveniences for carrying on our work which we never before possessed. In 1891 our President, PROF. T. McKENNY HUGHES, retired from the office he had occupied for fifteen years. The Society will ever owe him a deep debt of gratitude for his ready sympathy and the many ways in which he promoted our best interests. As all work tends to development we have of late been adding to our numbers many young and ardent students, and their tendency has necessarily been to take up new subjects and to divide into small Sections; but as these Sections depend greatly on the enthusiasm of a few, they hold their position only for a time. One Section which has been

recently started would, however, have delighted the heart of our Founder. It is the Literary Section. Literature should always hold a large place in human thought and aspiration. If this Section is well managed and supported it will be a source of strength to our whole body, for how many of the bare facts of Natural Science appear dry and uninteresting when taken alone. It requires the poetic thought of a Goethe to rehabilitate the dead bones, or the philosophic genius of a Wendle Holmes to make us lay hold of the broader facts in nature, and trace their far reaching consequences both as a training to the mind and an awakening of a true perception of their value.

We have now 660 Members in the Society; 43 new Members have joined us in the past year. We have lost, by death and removal, 17 Members.

Amongst our Honorary Members we mourn the death of MRS. KINGSLEY, who, by her many acts of kindness, and by her admirable Life of her husband, has helped to keep alive the memory of one to whom Chester and this Society owe so much.

We have now in the Natural History Room a copy of WOOLNER'S Bust of CHARLES KINGSLEY, presented to the Society by MISS KINGSLEY.

We have also to record the death of PROF. STERRY HUNT, of Montreal, Canada. Many of us can recall, with pleasure, his being with us at our *Conversazione* in 1887, when so many famous Geologists visited this country for the Geological Conference held under our late President, PROF. T. MCKENNY HUGHES.

In the first list of our Members will be found the name of MR. J. TATLOCK, late City Coroner. In his death we have a great loss. He was a staunch supporter of our Society, and has made us many valuable presents. At the building of this Museum he acted as legal adviser to the Committee, and not only gave his services but also presented the Legal Stamp Duties (no small sum) as his subscription. He was a skilled



Microscopist, and always present with his Microscope at our Annual Conversazioni.

With much regret we have also to announce the death of MR. W. H. OKELL. He was known to most of us, as for nine years he occupied the position of one of our General Secretaries. We greatly esteemed him for his high character and untiring industry, and his loss will be felt by all the Members of our Society. To the last he took a deep interest in our work and in the general management of the Museum.

During the past year MR. A. O. WALKER has been our President. He has always been a true helper to the Society, and though now living away from Chester he has endeavoured to keep up the old traditions, and been frequently present at our Meetings.

Although the space given to our Natural History Collection is very limited, our indefatigable Curator, MR. NEWSTEAD, has been adding considerably to our store of specimens. Of necessity, only a small portion of what he has prepared can be displayed. When more room is placed at our disposal by the Museum Management Committee, through the proposed extension of the Building, we shall be enabled to show a good local collection worthy of the district. The Curator's Report will give the details of the work done during the past year.

The Library is in good order, and the Society has acquired, by purchase, SOWERBY'S British Botany in 8 Vols. This will prove a valuable book of reference to all who take an interest in the subject.

The Accounts of the Kingsley Memorial Fund will be laid before you by the Honorary Treasurer, MR. E. J. BAILLIE.

The usual programme of the Society's work is presented under the following heads:—

|                  |                    |
|------------------|--------------------|
| EXCURSIONS       | SECTIONAL MEETINGS |
| EVENING RAMBLES  | CONVERSAZIONE      |
| GENERAL MEETINGS | PRIZES             |

The following Excursions were made during the past summer :—

|                  |                         |
|------------------|-------------------------|
| 1891.            |                         |
| May 27th .....   | The Vale of Gresford.   |
| June 22nd .....  | Vaynol Park.            |
| July 15th .....  | Manchester Ship Canal.  |
| Sept. 10th ..... | Rhydymwyn and the Leet. |

#### EVENING RAMBLES.

|                |                                    |
|----------------|------------------------------------|
| June 1st ..... | The Gardens and Serpentine, Eaton. |
| „ 9th .....    | Blacon.                            |
| „ 17th .....   | Upton Nurseries.                   |
| July 1st ..... | Christleton Hall Gardens.          |
| „ 9th .....    | Waverton.                          |
| „ 15th .....   | Delamere.                          |
| „ 20th .....   | Eaton.                             |
| „ 29th .....   | Atchmere.                          |
| Aug. 7th ..... | Helsby Hill.                       |

It will be seen that four Excursions to distant places were arranged. These were fairly attended. The expedition to Vaynol Park, which promised to be one of the most enjoyable, was sadly damped by the accident which happened early in the day to MR. SHEPHEARD. Happily it did not turn out as serious as was first apprehended.

The Committee have great cause for thankfulness that in the past twenty-one years the Society has been spared any serious accident, as there is always an element of danger when a large body of people are moving about and when enthusiasm gets the better of prudence.

The Evening Rambles have again been on a more extended scale, and when the locality is popular we have had good attendances.

The Annual Conversazione took place in the Grosvenor Museum, on September 30th, and was, as usual, well attended. The Kingsley Memorial Medal was presented to MR. R. NEWSTEAD, F.E.S., by the COUNTESS GROSVENOR. The Society owes much to MR. NEWSTEAD in many ways. His admirable work as Curator cannot be too highly spoken of, and his original notes and observations with regard to the life-

history of Injurious Insects will leave a permanent mark in Entomological Science, enabling him to give useful information and suggestions of great value to the Agriculturist. Already, Gardeners and Farmers are waking up to the fact that when their crops sustain injury it is well to seek the cause and the means of prevention, and for work in this direction alone MR. NEWSTEAD has proved himself pre-eminently worthy of the Medal.

For the first time there have been no collections sent in for the Kingsley Prize. This is much to be regretted, and it is to be hoped that in future this great aid towards keeping up our local collections will not be neglected.

During the past winter the following General Meetings have been held :—

1891.

Oct. 28—"The Climate of the North Coast of North Wales," by A. O. WALKER, ESQ., President of the Society.

Nov. 26—"On Mimicry in the Lepidoptera," by COL. CHARLES SWINHOB, F.L.S., F.Z.S., &c., of Oxford.

1892.

Jan. 28—"To Ober Ammergau and Back in 1890," by W. LAMOND HOWIE, ESQ., F.C.S.

Feb. 25—"Mexico," by CHARLES LANCASTER, ESQ.

Mar. 31—"Egypt," by the REV. H. B. BLOGG, M.A.

Apr. 28—Annual Meeting.

On the whole, the Lectures have been better attended than usual, though there have been some few exceptions, accounted for by the deterrent effects of bad weather. We must also take into account the Courses now carried on at our Museum under the Oxford Extension Scheme. In early days our Society was the only body which provided this form of mental culture, and the way in which first-class Lectures on various subjects have been appreciated during the last year may well stimulate us to greater efforts in our own especial line of work. Our Society ought now to look for strength to its Sectional Meetings. Good Papers, followed by discussion, would tend to bring out the knowledge and experience of our Members, and we might then

look for Papers worthy of publication, which would bring us in contact with other Societies investigating kindred branches of Natural Science.

The Sections into which our Society is divided have met as follows:—

#### PHOTOGRAPHIC AND LITERATURE SECTIONS.

Separate Reports are given of these Sections, which will be found under their respective headings.

#### BOTANICAL SECTION.

1891.

Nov. 5—"Lichens: Notes on their Life-history," by MR. J. D. SIDDALL, Chairman.

Dec. 17—Special Microscopical Evening—Discussion, Conversation.

1892.

Jan. 21—"The Birth and Growth of Horticulture," by MR. G. P. MILN, Secretary.

Mar. 17—An Exhibition of Hardy Spring Flowers.

#### ZOOLOGICAL SECTION.

1891.

Nov. 12—MR. NEWSTEAD, the Curator, explained and illustrated, with specimens and diagrams, his work during the past year.

1892.

Feb. 4—Conversational Evening.

Mar. 24—Micro-Zoology, by Members of the Section.

#### GEOLOGICAL SECTION.

1891.

Nov. 19—"Salt," by MR. A. W. LUCAS, F.G.S., Secretary.

1892.

Jan. 7—"Subterranean Erosion," by MR. W. SHONE, F.G.S., Chairman.

Feb. 18—"The origin of the present Estuaries of the Ribble, the Mersey, and the Dee," by MR. W. SHONE, Chairman.

Apr. 7—"Coal: its Nature and History," by MR. A. W. LUCAS, F.G.S., Secretary.

The Natural History Sections have had a fair amount of Meetings, but the attendance in many cases has been small, and we have had to depend upon our earliest friends and supporters for all the work which has been done.

## NATURAL PHILOSOPHY SECTION.

1891.

Dec. 3—"The Manufacture and Properties of Carboic Acid and its Derivatives," by MR. J. BAIRSTOW, Queen's Ferry Chemical Works.

1892.

Mar. 3—"From an Oil Well to a Candle," by MR. J. BATEMAN, Dee Oil Company's Candle Works.

Apr. 21—"Modern Views of Chemistry," by MR. F. E. FRANCIS.

We have to congratulate this Section on having brought forward three new contributors of Papers, which have been excellent in quality and awakened much interest in subjects not previously treated.

Your Committee have met frequently during the past year for the purpose of arranging Excursions and Lectures, and in this way we have endeavoured to stimulate our Members to fresh exertion.

Without the aid of the Members of the Society your Committee would be powerless for good, and therefore we must call on all to do their best during the coming year, so that our Twenty-second Anniversary may show no falling off from the pleasant memories of the past twenty-one years.

HENRY STOLTERFOTH,  
*Scientific Secretary.*

APRIL 28TH, 1892.



## CURATOR'S REPORT.

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THE total of the number of Species and Specimens sent in during the past twelve months is less than half that of the previous year; this is partly due to the fact that your Curator has done less collecting than in previous years, owing to the original work he has done in connection with the study of the *Coccidæ*, or Scale Insects, to which group he has added during the past year seven species new to science. Five of them are from the Society's district.

The collection of *Lepidoptera* has been considerably increased in species and series by MR. J. ARKLE, as will be seen on referring to the List of Donations. A few additional species have been added to the *Hymenoptera* by exchange, and several life-histories of insects have been prepared and others renovated.

We are again considerably indebted to the following gentlemen for their valuable help in the identification of specimens:—MR. EDWARD SAUNDERS, F.E.S., Woking; MR. J. W. DOUGLAS, F.E.S., Lewisham; MR. A. O. WALKER, F.L.S.; DR. C. V. RILEY, Washington, D.C.

HIS GRACE THE DUKE OF WESTMINSTER, K.G., has been fortunate in procuring for us some very interesting additions, among which may be mentioned the Pine Marten (*Martes fiona*. Gmel.)

No additional life-histories of Birds have been prepared.

MR. BROCKTON TOMLIN has for several years rendered valuable help in the identification of Shells, and helped in their arrangement, which is gratefully acknowledged. The Kingsley Memorial Collection of Shells by MR. A. J. NIXON, has been arranged in one of the Entomological Cabinets.

The Geological department has been considerably increased by the very interesting collection of Cave Bones, from the Plas Heaton Cave, kindly lent by MAJOR W. HEATON. The collection contains the only remains of the Glutton or Wolverine (*Gulo luscus*.)

MAJOR HEATON has also presented a collection of duplicate specimens from the same cave; these, together with the loan collection, are, at present, on view on the first landing,

as no space can be provided for them in the Natural History room, which is already overcrowded. The want of space has become a very serious item indeed; cases of exhibits are crammed together in the hall and vestibule, and in every available space in the science class-rooms, entirely destroying scientific arrangement. And what is equally bad, many of the cases are constantly being removed for the accommodation of the various lectures that are given in the Institution.

Your Curator acknowledges with thanks the assistance rendered by the following for the loan of their Reference Books:—MR. A. O. WALKER, F.L.S., MISS TOMLIN, MR. L. E. DUCKWORTH, MR. T. SHEPHEARD, MR. Ed. SAUNDERS, F.E.S.

In concluding this Report, your Curator thanks all those who have kindly helped by their donations, and the Committee for their kind encouragement.

The following is the total abstract of the number of Species and Specimens sent in during the past year:—

|                                             | Species Presented. | Species Purchased. | Total of Species. | Total of Specimens. |
|---------------------------------------------|--------------------|--------------------|-------------------|---------------------|
| <i>Celenterata</i> .. .. .                  | 3                  | ..                 | 3                 | 5                   |
| <i>Crustacea</i> (Shrimps, &c.) .. ..       | 5                  | ..                 | 5                 | 7                   |
| <i>Coleoptera</i> (Beetles) .. .. .         | 49                 | ..                 | 49                | 92                  |
| <i>Orthoptera</i> (Grasshoppers, &c.) .. .. | 1                  | ..                 | 1                 | 1                   |
| <i>Hymenoptera</i> (Bees, &c.) .. ..        | 16                 | ..                 | 16                | 30                  |
| <i>Lepidoptera</i> (Moths) .. .. .          | 119                | 3                  | 119               | 415                 |
| * <i>Coccidæ</i> (Scale Insects) .. ..      | 17                 | ..                 | 17                | 13                  |
| <i>Aphidæ</i> (Plant Lice) .. .. .          | 2                  | ..                 | 2                 | ..                  |
| <i>Diptera</i> (Two-winged Flies) .. ..     | 3                  | ..                 | 3                 | 4                   |
| <i>Aphaniptera</i> (Fleas) .. .. .          | 3                  | ..                 | 3                 | 7                   |
| <i>Mallophaga</i> (Lice) .. .. .            | 5                  | ..                 | 5                 | 10                  |
| <i>Acaræ</i> (Mites) .. .. .                | 4                  | ..                 | 4                 | 11                  |
| <i>Conchology</i> (Shells) .. .. .          | 3                  | ..                 | 3                 | 9                   |
| <i>Pisces</i> (Fish) .. .. .                | 5                  | 2                  | 5                 | 6                   |
| <i>Reptilia</i> (Reptiles) .. .. .          | 2                  | ..                 | 2                 | 4                   |
| <i>Aves</i> (Birds) .. .. .                 | 18                 | 2                  | 20                | 26                  |
| Eggs .. .. .                                | 3                  | ..                 | 3                 | 7                   |
| <i>Mammalia</i> (Animals) .. .. .           | 5                  | ..                 | 5                 | 7                   |
| Geology .. .. .                             | 22                 | 2                  | 24                | 72                  |
| Miscellaneous .. .. .                       | ..                 | ..                 | ..                | 10                  |
| Lists of local Fauna .. .. .                | ..                 | ..                 | ..                | 3                   |
| <b>TOTAL</b> .. .. .                        | <b>285</b>         | <b>9</b>           | <b>289</b>        | <b>739</b>          |

\* The total does not include specimens of the genus *Diaspis*, *Mytilaspis*, and *Chionaspis*.

## LIST OF DONORS.

## COELENTERATA.

|                  |    |    |    |    | Species. | Specimens. |
|------------------|----|----|----|----|----------|------------|
| Mr. A. O. Walker | .. | .. | .. | .. | 2        | — 2        |
| Miss Tomlin      | .. | .. | .. | .. | 1        | — 3        |

## CRUSTACEA (Shrimps, &amp;c.)

|                  |    |    |    |    |   |     |
|------------------|----|----|----|----|---|-----|
| Mr. A. O. Walker | .. | .. | .. | .. | 5 | — 7 |
|------------------|----|----|----|----|---|-----|

## COLEOPTERA (Beetles.)

|                     |    |    |    |    |    |      |
|---------------------|----|----|----|----|----|------|
| Mr. A. O. Walker    | .. | .. | .. | .. | 15 | — 20 |
| „ G. P. Miln        | .. | .. | .. | .. | 1  | — 10 |
| „ B. Kendrick       | .. | .. | .. | .. | 1  | — 2  |
| „ A. T. Gillanders  | .. | .. | .. | .. | 1  | — 12 |
| „ Thos. Shephard    | .. | .. | .. | .. | 1  | — 1  |
| „ Harker, Liverpool | .. | .. | .. | .. | 1  | — 2  |
| Miss Tomlin         | .. | .. | .. | .. | 2  | — 12 |
| „ Kimber, Newbury   | .. | .. | .. | .. | 2  | — 3  |
| Curator             | .. | .. | .. | .. | 25 | — 30 |

## ORTHOPTERA (Grasshoppers, &amp;c.)

|                  |    |    |    |    |   |     |
|------------------|----|----|----|----|---|-----|
| Mr. A. O. Walker | .. | .. | .. | .. | 1 | — 1 |
|------------------|----|----|----|----|---|-----|

## HYMENOPTERA (Bees, &amp;c.)

|                                   |    |    |    |    |   |      |
|-----------------------------------|----|----|----|----|---|------|
| Mr. Chalton                       | .. | .. | .. | .. | 1 | — 1  |
| Miss Kimber, Newbury              | .. | .. | .. | .. | 2 | — 3  |
| „ E. C. Tomlin                    | .. | .. | .. | .. | 5 | — 9* |
| Mr. Willoughby Gardner, Liverpool | .. | .. | .. | .. | 5 | — 7* |
| Curator                           | .. | .. | .. | .. | 3 | — 10 |

## LEPIDOPTERA (Moths, &amp;c.)

|                       |    |    |    |    |    |       |
|-----------------------|----|----|----|----|----|-------|
| Mr. A. O. Walker      | .. | .. | .. | .. | 3  | — 4   |
| „ J. Arkle            | .. | .. | .. | .. | 82 | — 347 |
| „ Weaver              | .. | .. | .. | .. | 1  | — 1   |
| „ Wynne, Minera       | .. | .. | .. | .. | 1  | — 1   |
| „ Jas. Clutton        | .. | .. | .. | .. | 1  | — 1   |
| „ J. P. Earwaker      | .. | .. | .. | .. | 1  | — 1   |
| „ A. Cookson, Oakmere | .. | .. | .. | .. | 1  | — 1   |
| „ F. R. Bolland       | .. | .. | .. | .. | 17 | — 23  |
| „ Geo. Frater         | .. | .. | .. | .. | 3  | — 5   |
| Miss Kimber           | .. | .. | .. | .. | 2  | — 8   |
| „ Tomlin              | .. | .. | .. | .. | 1  | — 12  |
| Captain Griffith      | .. | .. | .. | .. | 1  | — 1   |
| The Curator           | .. | .. | .. | .. | 5  | — 10  |

\* These by exchange.



## COCCIDÆ (Scale Insects.)

|                      |    |    |    |    | Species. | Specimens. |
|----------------------|----|----|----|----|----------|------------|
| Miss Tomlin          | .. | .. | .. | .. | 1        | — 10       |
| Mr. A. T. Gillanders | .. | .. | .. | .. | 1        | — ..       |
| Dr. Stollerfoth      | .. | .. | .. | .. | 1        | — 3        |
| Curator              | .. | .. | .. | .. | 14       | — ..       |

## APHIDÆ (Plant Lice.)

|                   |    |    |    |    |   |      |
|-------------------|----|----|----|----|---|------|
| Mr. E. J. Baillie | .. | .. | .. | .. | 1 | — .. |
| „ T. R. Hodges    | .. | .. | .. | .. | 1 | — .. |

## DIPTERA (Two-winged Flies.)

|                      |    |    |    |    |   |     |
|----------------------|----|----|----|----|---|-----|
| Miss Kimber, Newbury | .. | .. | .. | .. | 3 | — 4 |
|----------------------|----|----|----|----|---|-----|

## APHANIPTERA (Fleas.)

|         |    |    |    |    |   |     |
|---------|----|----|----|----|---|-----|
| Curator | .. | .. | .. | .. | 3 | — 7 |
|---------|----|----|----|----|---|-----|

## MALLOPHAGA (Lice.)

|         |    |    |    |    |   |      |
|---------|----|----|----|----|---|------|
| Curator | .. | .. | .. | .. | 5 | — 10 |
|---------|----|----|----|----|---|------|

## ACARI (Mites.)

|                       |    |    |    |    |   |     |
|-----------------------|----|----|----|----|---|-----|
| Dr. W. H. Dobie       | .. | .. | .. | .. | 1 | — 3 |
| Mr. E. Bostock, Stone | .. | .. | .. | .. | 2 | — 6 |
| Curator               | .. | .. | .. | .. | 1 | — 2 |

## CONCHOLOGY (Shells.)

|                         |    |    |    |    |   |     |
|-------------------------|----|----|----|----|---|-----|
| Mr. Brockton Tomlin     | .. | .. | .. | .. | 2 | — 8 |
| „ Hy. Thomas, Llandudno | .. | .. | .. | .. | 1 | — 1 |

## PISCES (Fish.)

|                   |    |    |    |    |   |     |
|-------------------|----|----|----|----|---|-----|
| Mr. A. O. Walker. | .. | .. | .. | .. | 1 | — 1 |
| Purchased         | .. | .. | .. | .. | 4 | — 5 |

## REPTILIA.

|                |    |    |    |    |   |     |
|----------------|----|----|----|----|---|-----|
| Mr. F. Bolland | .. | .. | .. | .. | 1 | — 3 |
| „ A. Newstead  | .. | .. | .. | .. | 1 | — 1 |

## AVES (Birds.)

|                                         |    |    |    |    |   |     |
|-----------------------------------------|----|----|----|----|---|-----|
| His Grace the Duke of Westminster, K.G. | .. | .. | .. | .. | 4 | — 4 |
| Mr. A. O. Walker                        | .. | .. | .. | .. | 2 | — 2 |
| Sir H. B. Robertson, Palé               | .. | .. | .. | .. | 2 | — 2 |
| Mrs. Hudson                             | .. | .. | .. | .. | 1 | — 1 |
| Mr. W. G. Crum                          | .. | .. | .. | .. | 1 | — 1 |
| „ R. P. Bradbury                        | .. | .. | .. | .. | 2 | — 5 |
| „ A. Monk                               | .. | .. | .. | .. | 1 | — 4 |
| Miss Lloyd Fletcher                     | .. | .. | .. | .. | 1 | — 1 |
| Master Ralph Congreve..                 | .. | .. | .. | .. | 1 | — 1 |
| Mr. Jas. Wright                         | .. | .. | .. | .. | 1 | — 1 |
| „ C. Smith                              | .. | .. | .. | .. | 1 | — 1 |
| „ J. P. Earwaker, Pensarn               | .. | .. | .. | .. | 1 | — 1 |

## EGGS.

|                  |    |    |    |    | Species. | Specimens. |
|------------------|----|----|----|----|----------|------------|
| Col. Clutterbuck | .. | .. | .. | .. | 1        | — 1        |
| Mr. T. Hignett   | .. | .. | .. | .. | 1        | — 1        |
| Curator          | .. | .. | .. | .. | 1        | — 5        |

## MAMMALIA (Animals.)

|                                         |    |    |    |    |   |     |
|-----------------------------------------|----|----|----|----|---|-----|
| His Grace the Duke of Westminster, K.G. | .. |    |    | .. | 1 | — 1 |
| Rev. C. Wolley-Dod                      | .. | .. | .. | .. | 1 | — 3 |
| Mr. Hy. Thomas                          | .. | .. | .. | .. | 1 | — 1 |
| „ Crum                                  | .. | .. | .. | .. | 1 | — 1 |
| Master C. Harding                       | .. | .. | .. | .. | 1 | — 1 |

## GEOLOGY.

|                  |    |    |    |    |    |      |
|------------------|----|----|----|----|----|------|
| Mr. A. O. Walker | .. | .. | .. | .. | 3  | — .. |
| Major W. Heaton  | .. | .. | .. | .. | 10 | — 62 |
| Mr. T. R. Hodges | .. | .. | .. | .. | 1  | — 1  |
| „ Fraser         | .. | .. | .. | .. | 1  | — 1  |
| Mrs. Morris      | .. | .. | .. | .. | 6  | — 6  |
| Purchased        | .. | .. | .. | .. | 1  | — 1  |

## LOAN COLLECTION.

|                                                                        |    |    |    |    |   |     |
|------------------------------------------------------------------------|----|----|----|----|---|-----|
| Major W. Heaton—Collection of Cave Bones, from<br>the Plas Heaton Cave | .. | .. | .. | .. | — | 106 |
|------------------------------------------------------------------------|----|----|----|----|---|-----|

## MISCELLANEOUS.

|                                                  |    |    |    |    |   |   |
|--------------------------------------------------|----|----|----|----|---|---|
| Mr. L. E. Duckworth—Drawings of Sturgeon's Heart | .. |    |    | .. | — | 3 |
| Dicksons Limited—Stems of Tree Ferns             | .. | .. | .. | .. | — | 7 |

## LISTS OF LOCAL FAUNA.

|                               |    |    |    |             |
|-------------------------------|----|----|----|-------------|
| Col. George Dixon, Chelford   | .. | .. | .. | Birds       |
| Mr. Alfred Beaumont, Lewisham | .. | .. | .. | Hymenoptera |
| „ „ „                         | .. | .. | .. | Hemiptera   |

R. NEWSTEAD, F.E.S.,

28th April, 1892.

CURATOR.

The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1892.

| Dr.                                   |            | Cr.                                             |                 |
|---------------------------------------|------------|-------------------------------------------------|-----------------|
| 1891-2.                               |            | 1891-2.                                         |                 |
| By Subscriptions—                     |            | To Balance due to Treasurer                     |                 |
| 2 for 1888-9 @ 5/-                    | .. 0 10 0  | .. ..                                           | 4 1 7½          |
| 2 „ 1889-90 @ „                       | .. 0 10 0  | „ Museum Management Committee                   | .. 60 0 0       |
| 23 „ 1890-91 @ „                      | .. 5 15 0  | „ Library .. ..                                 | .. 15 18 0      |
| 536 „ 1891-2 @ „                      | .. 134 0 0 | „ Natural History Museum                        | .. 11 3 2½      |
|                                       |            | „ Printing, Stationery, &c.                     | .. 40 8 3       |
|                                       |            | „ Postages .. ..                                | .. 15 10 0      |
| „ Balance on Evening Meetings Account | .. 1 17 11 | „ Subscriptions—                                | .. ..           |
| „ „ Excursion Account                 | .. 2 0 5½  | „ Palaeontographical Society                    | .. 1 1 0        |
| „ Balance due to Treasurer            | .. 6 10 2½ | „ National Footpaths Preservation Society .. .. | .. 0 10 6       |
|                                       |            | „ Entomological Society (for Curator)           | 1 1 0           |
|                                       |            | „ Alfred Newstead, one Quarter's Wages          | 2 12 6          |
|                                       |            |                                                 | 1 10 0          |
|                                       |            |                                                 | <u>£151 3 7</u> |

27TH MAY, 1892.—*Examined and found correct, shewing a balance due to the Treasurer of Six Pounds Ten Shillings and Two pence Halfpenny.*

JOHN MILLS, HON. TREASURER. }  
BERESFORD ADAMS, } HON. AUDITORS.  
C. R. ENOCK, }



## PHOTOGRAPHIC SECTION.

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### REPORT.

YOUR Committee in presenting their fourth Annual Report tender the best thanks of the Section to those gentlemen who, by papers and demonstrations, have given interest to the Meetings held during the Winter Session, and ask for further contributions from the Members, especially in the direction of demonstrations and papers on practical Photography.

It is with great pleasure that your Committee record the fact that a lady member has again brought honour to the Section by winning the Gold Medal in the "Amateur Photographer" Ladies' Competition.

To encourage to technical and artistic excellence your Committee hope to institute a prize fund from which awards may be given to work of Members showing conspicuous merit. For such purpose it is intended to hold an Exhibition of Photographic Prints and Transparencies in connection with the Annual Conversazione of the Society to be held in the Autumn.

Your Committee are also engaged in formulating a scheme whereby the energies of the Members of the Section may be combined in making a Photographic Survey of Chester and the neighbourhood, so that prints and lantern slides may be secured illustrating the architecture, antiquities, and history of the old City and its surroundings. Such an effort would not only guide the work of the Members in a definite direction but be the means of collecting together a set of Lantern Slides which, with the addition of a descriptive Lecture, might be loaned to kindred Societies and thus give pleasure to hundreds to whom the beauties of Chester and neighbourhood may be as yet a closed book. Further particulars will be given to the Members shortly, together with any arrangements which may be made for Photographic Excursions, &c.

Your Committee venture to hope that the Summer of 1892 may yield photographic fruit worthy the twenty-first anniversary of the birth of the Chester Society of Natural Science and Literature.

The following Sectional Meetings have been held :—

1891.

Nov. 30.—“New Kodaks” and “Exhibition of Lantern Slides from Kodak Negatives,” by MR. H. M. SMITH, The Eastman Photographic Materials Company, London.

Dec. 10.—“A simple method of determining, in the Dark Room, the sensitiveness of a Photographic Plate, as referred to a Standard Candle,” by MR. E. G. BALLARD, A.R.S.M.

1892.

Jan. 11.—Exhibition of “Photography,” 1891, Hand-Camera Pictures and discussion on Hand-Cameras.

Feb. 11.—Exhibition of “Amateur Photographer,” 1891 Prize Lantern Slides.

March 10.—“Demonstration on Lantern Slide making on Chloride Plates,” by MR. G. F. WYNNE.

March 28.—Exhibition of Lantern Slides by Members of the Section.

J. H. SPENCER,

HON. SECRETARY.

28TH APRIL, 1892.



# PHOTOGRAPHIC SECTION.

BALANCE SHEET TO 31st MARCH, 1892.

| RECEIPTS.                               |           | PAYMENTS.                    |           |
|-----------------------------------------|-----------|------------------------------|-----------|
|                                         | £ s. d.   |                              | £ s. d.   |
| To Balance from 1891 .. ..              | .. 1 15 8 | By Photographic Papers .. .. | .. 0 17 2 |
| „ Return—Overcharge on Photo. Papers .. | .. 0 0 11 | „ Postages .. ..             | .. 0 2 7  |
| „ Subscriptions .. ..                   | .. 1 10 0 | „ Carriage, &c. .. ..        | .. 0 1 9  |
|                                         |           | Balance .. ..                | .. 2 5 1  |
|                                         | £3 6 7    |                              | £3 6 7    |

JUNE 3RD, 1892—*Examined and found correct,*

BERESFORD ADAMS,

HON. AUDITOR.

## SECTION OF LITERATURE.

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The Meetings have been generally well attended, and in view of the impulse to the study of Literature given by the OXFORD UNIVERSITY EXTENSION LECTURES, it is hoped that the Meetings of the Section may be found increasingly useful.

1891.

Nov. 2—"Jane Austen," by MR. BERNARD PARES, B.A.

Dec. 7—"Tennyson's Shorter Poems," by REV. A. H. FISH, B.A., B.Sc.

1892.

Feb. 8—"A Visit to some French Schools and Training Colleges," by  
MRS. HENRY SANDFORD.

Mar. 7—"The Supernatural in English Literature, by REV. CANON  
MORRIS, D.D.

ARTHUR H. FISH,

*Hon. Secretary.*

APRIL 28TH, 1892.





*"For having contributed materially to the promotion and advancement of some branch or department of Natural Science."*—Vide Trust Deed.

- 1877—MRS. CHAS. KINGSLEY (In Memoriam.)  
1878—JOHN PRICE, M.A.  
1879—SIR PHILIP DE MALPAS GREY-EGERTON, BART, F.R.S.  
1880—PROF. T. MCKENNY HUGHES, F.R.S.  
1881—D. MACKINTOSH, F.G.S.  
1882—ISAAC BYERLEY, M.R.C.S., F.L.S.  
1883—GEORGE W. SHRUBSOLE, F.G.S.  
1884—ALFRED OSTEN WALKER, F.L.S.  
1885—JOHN DAVIES SIDDALL.  
1886—HENRY STOLTERFOTH, M.A., M.D.  
1887—WILLIAM SHONE, F.G.S.  
1888—THOMAS SHEPHEARD, F.R.M.S.  
1889—THOS. RUDDY.  
1890—REV. CHAS. WOLLEY-DOD, M.A.  
1891—ROBERT NEWSTEAD, F.E.S.

KINGSLEY MEMORIAL PRIZES.

*"For the reward, encouragement, and the advancement of the pursuit and study of Natural Science."*—Vide Trust Deed.

- |      |   |                      |    |                                                                                                  |
|------|---|----------------------|----|--------------------------------------------------------------------------------------------------|
| 1878 | { | HELEN SMITH.....£5   | }  | <i>Herbarium of Flowering Plants.</i>                                                            |
|      |   | EDWIN W. OKELL....5  |    |                                                                                                  |
| 1879 | — | GEORGE SHRUBSOLE ..  | 5  | <i>Carboniferous Fossils.</i>                                                                    |
| 1881 | — | E. HOPKINS.....      | 5  | <i>Cryptogamous Plants.</i>                                                                      |
| 1882 | — | GEORGE SHRUBSOLE..   | 10 | <i>Corals of the Mountain Limestone.</i>                                                         |
| 1886 | — | ROBERT NEWSTEAD ..   | 10 | <i>Hymenoptera.</i>                                                                              |
| 1887 | — | JOHN LYON DENSON..   | 5  | <i>Notes of Observations illustrating the<br/>Natural Science of the Society's<br/>District.</i> |
| 1888 | — | LILIAN E. TOMLIN ..  | 5  | <i>Coleoptera.</i>                                                                               |
| 1889 | { | EDITH C. TOMLIN .... | 5  | <i>Diptera and Hymenoptera (Tere-<br/>brantia), &amp;c.</i>                                      |
|      |   | W. E. SHARP .....    |    |                                                                                                  |
| 1890 | — | ALFRED J. NIXON ..   | 10 | <i>Land and Fresh-Water Shells.</i>                                                              |

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

---

The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in local and other newspapers:—

1892.

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prize, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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*\*.\* All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors can obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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The Prizes will be awarded at the Annual Conversazione.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

---

- Academia Nacional de Ciencias de la Republica,  
 Argentina, Cordoba.  
 Barrow Naturalists' Field Club.  
 Brighton and Sussex Natural History Society.  
 Bristol Naturalists' Society.  
 British Museum (Natural History), Cromwell Road,  
 London, S.W.  
 Burnley Literary and Scientific Club.  
 Cardiff Naturalists' Society.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society  
 and Field Club.  
 Epping Forest and County of Essex Naturalists' Field Club.  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 La Société d'Histoire Naturelle de St. Wladimir á Kiew,  
 Russie.  
 Leeds Naturalists' Club.  
 Liverpool Geological Society.  
 Liverpool Geological Association.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club.  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Microscopical Society.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæ-  
 logical Society.  
 Nottingham Naturalists' Society.  
 Postal Microscopical Society.  
 Quekett Microscopical Society.  
 Rochdale Field Naturalists' Society.  
 Smithsonian Institution, Washington, D.C.  
 United States Geological Survey.  
 Vatican Observatory, Rome (F. Francis Denza, Director.)  
 Vienna Natural History Museum.  
 Wigan Literary and Scientific Society.  
 Yorkshire Naturalists' Union.

## HONORARY MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

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|                                            |                                                                 |
|--------------------------------------------|-----------------------------------------------------------------|
| Carruthers, W., Esq., F.R.S. ....          | <i>The British Museum, South Kensington, London, S.W.</i>       |
| *Dawkins, Prof. W. Boyd, F.R.S. ....       | <i>Woodhurst, Wilmslow rd., Fallowfield, Manchester</i>         |
| De Tabley, The Right Hon. Lord .....       | <i>62, Elm Park road, Chelsea, London, S.W.</i>                 |
| *Hicks, H., Esq., F.R.S. ....              | <i>Hendon Grove, Hendon, London, N.W.</i>                       |
| *Higgins Rev. H. H., M.A. ....             | <i>29, Falkner Square, Liverpool</i>                            |
| Hooker, Sir J. D., K.C.S.I., F.R.S. ....   | <i>Royal Gardens, Kew, London, W.</i>                           |
| *Hughes, Prof. T. McKenny, F.R.S. ....     | <i>Trinity College, Cambridge</i>                               |
| Huxley, Prof. T. H., F.R.S. ....           | <i>Hodeslea, Eastbourne</i>                                     |
| *Judd, Prof. J. W., F.R.S. ..              | <i>Royal College of Science, South Kensington, London, S.W.</i> |
| *Lubbock, Sir John, Bart., M.P., F.R.S.... | <i>Down, Farnborough, Kent.</i>                                 |
| *Morton, G. H., Esq., F.G.S. ....          | <i>209, Edge Lane, Liverpool, E.</i>                            |
| Norman, Rev. Canon, F.R.S. ....            | <i>Burnmoor Rectory, Fence Houses, Durham</i>                   |
| *Rae, E., Esq., F.S.A.....                 | <i>Court Lodge, Birkenhead</i>                                  |
| Renard, The Abbé .....                     | <i>Curator of The Royal Museum of Natural History, Brussels</i> |
| *Rudler, F. W., Esq., F.G.S. ....          | <i>Museum of Practical Geology, Jermyn Street, London, S.W.</i> |
| Tyndall, Prof. J., F.R.S. ....             | <i>Hind Head House, Haslemere</i>                               |
| Villanova-y-Piera.....                     | <i>Professor of Geology in the University of Madrid</i>         |
| *Vize, Rev. J. E., M.A. ....               | <i>Forden Vicarage, Welshpool</i>                               |


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|-------------------------------------------|-------------------------------------------------|
| Askew, Mr. Jas. H. ....                   | <i>Hilbre Island</i>                            |
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| Leather, Mr. F. S. ....                   | <i>New Zealand</i>                              |
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| Nixon, Mr. A. J. ....                     | <i>Birdham School, Chichester</i>               |
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| Wynne, Mrs. Lloyd .....                   | <i>Coed Coch, Abergele</i>                      |
| *Wilkins, Mr. T. S. ....                  | <i>Uttoxeter</i>                                |
| Williams, Mr. G. J., F.G.S. ....          | <i>Higher Grade School, Blaenau Festiniog</i>   |

# NOTICE.

 *THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr, JOHN MILLS, Chemist, Eastgate Row.*

 *To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.*

## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

|                                  |                                 |
|----------------------------------|---------------------------------|
| Acheson, Rev. Canon, M.A. ....   | 5 Abbey street                  |
| *Acton, Mr. T. Bennion .....     | Grove road, Wrexham             |
| Adams, Mr. Beresford .....       | 24 Chichester street            |
| Adams, Mr. Geo. F. ....          | Brighton villa, Saughall road   |
| Allen, Mr. Percy K. ....         | 22 Lorne street                 |
| Ambrosioni, Mr. F. A. ....       | White Friars House              |
| Appleton, Mr. John .....         | 9 Lorne street                  |
| Archer, Mr. W. E. ....           | 4 Ormonde street                |
| *Arkle Mr. J. ....               | Diocesan Schools, George street |
| Arnold, Miss Maggie .....        | 21 Chichester street            |
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| Ayrton, Mrs. ....                | Abbot's Rock, 33 Liverpool road |
| Ayrton, Mr. Alfred G. ....       | " " "                           |
| Bailey, Mr. H. Grant .....       | Crypt Chambers                  |
| *Baillie, Mr. E. J., F.L.S. .... | Woodbine, Upton                 |
| Baillie, Mrs. ....               | " "                             |
| Bainbridge, Rev. W. ....         | 19 St. John street              |
| *Bairstow, Mr. J. ....           | 32 Sealand road                 |
| Baker, Mr. J. R. ....            | 48 Bridge street                |
| Baker, Miss .....                | " "                             |
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| Ballard, Mrs. ....               | " "                             |
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| Barber, Mr. John .....           | 19 Eastgate street              |
| Barbour, Mr. Geo., J.P. ....     | Bolesworth Castle, Tattenhall   |
| Barbour, Mrs. ....               | " " "                           |
| Barker, Mr. A. ....              | 6 Abbey street                  |





|                                       |                                       |
|---------------------------------------|---------------------------------------|
| Dutton, Mr. George                    | Curzon House                          |
| Dutton, Mrs.                          | "                                     |
| Dutton, Mrs. G. W.                    | 15 Curzon park                        |
| Dutton, Mr. H. B.                     | Freshfield, 27 Curzon park            |
| Dutton, Mrs.                          | "                                     |
| *Dutton, Mr. F. V.                    | 2 Victoria pathway, Queen's park      |
|                                       |                                       |
| Edwards, Mr. J.                       | 74 Foregate street                    |
| Eggers, Miss                          | 4, Hough green                        |
| Elliott, Dr. John, B.S., B.Sc.        | White Friars Cottage                  |
| Elliott, Miss                         | "                                     |
| Enock, Mr. C. R.                      | 15 Hough green "                      |
| Enock, Mrs.                           | "                                     |
| Evans-Lloyd, Col., J.P.               | Stanley House                         |
| *Evans, Mr. F.                        | The Eastgate                          |
| Evans, Miss                           | Eversley House, Eversley park         |
| Evans, Rev. T. J., M.A.               | Hargrave Rectory, near Chester        |
| Evans, Miss J. E.                     | The Limes, 5 Lumley road              |
| Evans, Miss Agard                     | 14 Chichester street                  |
| Ewen, Miss                            | Bridge street row                     |
| Ewing, Mr. C. A.                      | 3 Brookside villas, Flookersbrook     |
|                                       |                                       |
| Farmer, Mr. Richard                   | 36 Liverpool road                     |
| Farrimond, Mr. F. T.                  | Sunnyside, Boughton                   |
| Ffoulkes, His Honor Judge Wynne, M.A. | Upper Northgate street                |
| Ffoulkes, Mr. Thomas B, Junr.         | 8 Burlington road, Ipswich            |
| Finchett, Mr. W. H.                   | Savings' Bank House, Grosvenor street |
| Firth, Mr. N. C.                      | 125 Foregate street                   |
| Fish, Mrs.                            | Arnold House, Parkgate road           |
| *Fish, Rev. A. H., B.A., B.Sc.        | " "                                   |
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| *Fletcher, Mr. P. H.                  | Woodbrae, Curzon park                 |
| Fletcher, Miss                        | " "                                   |
| Fluitt, Miss                          | Grey friars                           |
| Fluitt, Miss F. C.                    | "                                     |
| Footner, Mrs                          | 4 King's buildings                    |
| *Francis, Mr. F. E.                   | Kilmorey park, Hoole                  |
| Frater, Mr. G.                        | The Bank, Wrexham                     |
| Frater, Mr. Jas.                      | Tarvin road                           |
| Frazer, Miss                          | King's buildings                      |
| Freeman, Mr. C. E.                    | 16 Lorne street                       |
| Frith, Mr. Jas. N.                    | 21 Tarvin road                        |
| Fromont, Mr. W. H.                    | 15 Tarvin road                        |
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| Frost, Mr. T. Gibbons                 | 2 Richmond place                      |
| Frost, Mrs.                           | " "                                   |
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| Gardner, Mrs. W. A.                   | Redland House, Hough green            |
| Gardner, Miss                         | " "                                   |
| Gardner, Mr. E.                       | 80 Watergate street "                 |
| Gardner, Mr. Jas.                     | Tattenhall, Chester                   |
| Garnett, Mr. W.                       | Bridge street row                     |
| Garnett, Mrs.                         | The Rectory, Christleton              |
| Garside Mr. F.                        | Hamilton street, Hoole                |



|                                                |                                       |
|------------------------------------------------|---------------------------------------|
| Gibson, Mr. J. M. ....                         | Buckley, <i>via</i> Chester           |
| Gibson, Miss Ada .....                         | Crane street                          |
| Gibson, Mr. John .....                         | South View, Eaton road                |
| Gilbert, Mr. Leonard, J.P. ....                | Egerton villa, Liverpool road         |
| *Giles, Rev. W. T., M.A., F.R.G.S. ....        | The Asylum, Chester                   |
| Giles, Mr. E. S. ....                          | 63 Watergate row                      |
| Giles, Mrs. ....                               | " "                                   |
| Glascodyne, Miss .....                         | 11 Cambrian view                      |
| Golder, Mr. S. ....                            | 41 Liverpool road                     |
| Goodman, Mr. A. E. ....                        | Fern Bank, Filkin's lane              |
| Goodhart, Mrs. E. S. ....                      | 96 Watergate flags                    |
| *Granger, Mr. F. M., M.R.C.S., L.R.C.P.L. .... | 18 Nicholas street                    |
| Grantham, Rev. H. ....                         | S. Mary's Rectory                     |
| Gray, Miss .....                               | 4 Lorne street                        |
| Greenhouse, Mr. Chas. ....                     | 1 Eversley park                       |
| Gregg, Mr. W. ....                             | 2 Watergate square                    |
| Griffith, Mr. G. R. ....                       | 30 Hough green                        |
| Griffith, Mrs. ....                            | " "                                   |
| Griffith, Miss .....                           | " "                                   |
| Griffith, Mr. N. de B. ....                    | 87 Harley street, London, W.          |
| Griffiths, Mr. Jno. ....                       | Hamilton Street, Hoole                |
| Griffiths, Mrs. ....                           | " "                                   |
| Griffiths, Mr. T. W. ....                      | 5 Hough green                         |
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| *Grocott, Mr. E. A. ....                       | Haughton, Nantwich                    |
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| Hall, Miss Cecile .....                        | " "                                   |
| Hall, Miss Josephine .....                     | " "                                   |
| Hall, Major-Gen. Julian H. ....                | Government House                      |
| Hall, Mrs. ....                                | " "                                   |
| Hall, Mr. M. J. ....                           | " "                                   |
| Hamel, Miss .....                              | 9 Abbey street                        |
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| Hankey, Mr. Lee .....                          | Rock Mount, Liverpool road            |
| Hankey, Miss C. M. ....                        | " "                                   |
| Hardy, Mr. J. E. ....                          | The "Blue Coat" School, The Northgate |
| Harnaman, Mr. J. M. ....                       | St. John's Schools, Alvanley          |
| Harrison, Miss .....                           | 20 Lorne street                       |
| Harrison, Mrs. Jno. ....                       | Ashton House, New Crane street        |
| Harrison, Mr. N. ....                          | Highfield, Curzon park                |
| Harrison, Mrs. ....                            | " "                                   |
| Haswell, Mr. G. H. ....                        | Ashville, Helsby                      |
| Heblethwaite, Mr. John W. ....                 | Green Bank, Eaton Road                |
| Henderson, Mr. J. E. ....                      | 19, Pathway, Queen's park             |
| Henderson, Miss M. H. ....                     | " "                                   |
| Henderson, Mr. Wm. ....                        | 11 Union walk                         |
| Henshaw, Mr. T. ....                           | The Hollies, Liverpool road           |
| Henshaw, Mr. T. A. ....                        | " "                                   |
| Henshaw, Miss Edith E. ....                    | " "                                   |
| Henshaw, Miss Florence M. ....                 | " "                                   |
| Heppel, Miss .....                             | 8. Hough Green                        |
| Herne, Col. ....                               | Delamere House, Liverpool road        |
| Hewitt, Mr. David L. ....                      | Abbey House, Northgate street         |

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| Hickman, Mr. F. F. ....              | 8 Northgate street                      |
| Hickman, Miss .....                  | 17 The Groves                           |
| Higgins, Miss Eva .....              | The Manor, Overleigh                    |
| Higgins, Miss Millie .....           | " "                                     |
| Higgins, Mr. W. H. ....              | St Martin's in-the-fields               |
| Hignett, Mrs. ....                   | 14 Hough green                          |
| Hignett, Mr. A. H. ....              | " "                                     |
| Hignett, Mrs. T. H. ....             | 18 Hough green                          |
| Hillyard, Rev. Canon, M.A. ....      | Okeford, Bampton, N. Devon              |
| Hincks, Mr. H. T. ....               | 61 Northgate street                     |
| Hobday, Mr. J. ....                  | Alexandra villa, Liverpool road         |
| Hobday, Mr. E. ....                  | " "                                     |
| Hobday, Mr. Jas. ....                | 22 The Groves                           |
| *Hodges, Mr. W. ....                 | 31 Hough green                          |
| Hodges, Mr. T. R. ....               | " "                                     |
| Hodges, Miss A. G. ....              | " "                                     |
| Hodkinson, Mr. E. ....               | 35 Pepper street                        |
| *Holland, Mr. R., M.R.A.C. ....      | Mill Bank House, Frodsham               |
| Holme, Rev. A. P., M.A. ....         | Great Budworth, Northwich               |
| Holmes, Mr. J. G. ....               | Belmont, Curzon park                    |
| Hoole, Rev. W. Spooner, M.A. ....    | Thornton Rectory, near Chester          |
| Hopkins, Mrs. ....                   | 32 Queen street                         |
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| Horabin, Mr. T. ....                 | 16 Newgate street                       |
| Horton, Mr. H. R. ....               | 74 Brook street                         |
| Hostage, Mr. George B. ....          | 28 Eaton road                           |
| Hostage, Mrs. ....                   | " "                                     |
| Hostage, Miss .....                  | 22 Eaton road                           |
| Howson, Rev. J. F., M.A. ....        | Egerton House, Upper Northgate street   |
| Howson, Miss .....                   | " " "                                   |
| Howson, Miss M. ....                 | " " "                                   |
| Howson, Rev. G. J., M.A. ....        | The Vicarage, Crewe                     |
| Hudson, Mrs. R. S. ....              | Bache Hall, Chester                     |
| Hughes, Mrs. McKenny ....            | 4 Cintra terrace, Cambridge             |
| Hughes, Mr. Thos. Cann, B.A. ....    | Town Hall, Manchester                   |
| *Hughes, His Honour Judge, Q.C. .... | Uffington House, Dee hills              |
| Hughes, Mrs. ....                    | " "                                     |
| Hughes, Mr. John .....               | City road                               |
| Hughson, Mr. A. ....                 | Crossloom villas, Mollington            |
| Humberston, Miss .....               | Newton Hall, Chester                    |
| Humphreys, Mr. E. Noel ....          | 8 Derby Place, Hoole                    |
| Humphreys, Miss .....                | Bridgegate House                        |
| Jackson, Mr. Roger .....             | 26 Hough green                          |
| Jackson, Miss .....                  | " "                                     |
| Jacob, Rev. Joseph, M.A. ....        | Whitewell Rectory, Whitchurch (Salop)   |
| Jayne, Mr. Ernest .....              | The Palace, Dee side                    |
| *Jebb, Mr. G. R., C.E. ....          | Fairfield, Great Bar, Birmingham        |
| *Jeffs, Mr. O. W. ..                 | 12, Queen's road, Rock Ferry            |
| Jennings, Mr. Constantine ....       | The Studio, Bridge street               |
| Jennings, Mrs. ....                  | " "                                     |
| Jephcott, Mr. Charles .....          | 13 Lorne street (North)                 |
| Johnson, Major .....                 | 9 Upper Northgate street                |
| Johnson, Mrs. ....                   | 11 Bertram road, Sefton park, Liverpool |
| Johnson, Mr. ....                    | St. Paul's School, Boughton             |
| *Johnson, Mr. M., L.D.S.I. ....      | 9 York villas, Lorne street             |
| Jones, Miss Maggie .....             | 1 King's buildings                      |
| Jones, Miss .....                    | The Northgate                           |

|                                                    |    |                                                           |
|----------------------------------------------------|----|-----------------------------------------------------------|
| Keeble, Rev. S. E. ....                            | 3  | Hawthorne villas, Flookersbrook                           |
| Kelham, Mr. Augustus ....                          | 3  | Eversley park, Liverpool road                             |
| Kelsall, Miss M. ....                              |    | Abbot's court, Liverpool road                             |
| Kemp, Mr. George ....                              | 59 | Bridge street                                             |
| Kenyon, Mr. G. A., M.B. ....                       |    | Flookersbrook                                             |
| King, Dr. H. W. ....                               | 18 | Newgate street                                            |
| King, Mrs. ....                                    | "  | "                                                         |
| Kingsley, Miss ....                                |    |                                                           |
| Kingsley, Mr. G. A. ....                           |    |                                                           |
| Kinsey, Mr. T. E. Morris ....                      |    | Westminster buildings                                     |
| Knowles, Mr. E. R. ....                            |    | Grosvenor street                                          |
| Kynnersley, Mr. E. M. Sneyd ..                     | 24 | Castle street                                             |
|                                                    |    |                                                           |
| Lacy, Mrs. ....                                    |    | Moor Holme, Neston                                        |
| Lamont, Mr. A. ....                                | 3  | City Walls (West)                                         |
| Lamont, Mr. A., Junr. ....                         | "  | "                                                         |
| Lamont, Miss. ....                                 | "  | "                                                         |
| Lanceley, Mr. R. H. ....                           |    | Victoria road                                             |
| Latham, Mr. J. S. ....                             |    | Green Bank, Liverpool road                                |
| *Lawrence, Dr. A. ....                             |    | The Asylum, Chester                                       |
| Leighton, Mr. A. G. ....                           | 8  | Bold terrace                                              |
| Lewis, Rev. J. S., M.A. ....                       |    | Guildsfield Vicarage, Welshpool                           |
| Linnell, Mr. George F. ....                        |    | The Old Bank, Chester                                     |
| Lipsham, Mr. F. ....                               | 17 | Pepper street                                             |
| Littler, Miss. ....                                | 17 | Eaton road                                                |
| Lloyd, His Honour Sir Horatio ..                   |    | Stanley place                                             |
| Lloyd, Lady ....                                   | "  | "                                                         |
| Lloyd, Mr. E. Honoratus ....                       | 32 | Prince's square, Bayswater, London                        |
| Lloyd, Mrs. E. ....                                |    | Abbot's mount, Liverpool road                             |
| Lloyd, Miss M. E. ....                             | 20 | Lorne street                                              |
| *Lockwood, Mr. T. M., F.R.I.B.A. ...               | 80 | Foregate street                                           |
| Lomax, Mr. F. T. ....                              | 12 | Bold terrace                                              |
| Longbottom, Mr. F. W. ....                         | 14 | Eaton road                                                |
| Longbottom, Mrs. ....                              | "  | "                                                         |
| Lowe, Mr. G. B. ....                               | 25 | Hough green                                               |
| Lowe, Miss C. H. ....                              | "  | "                                                         |
| *Lowe, Mr. W. F., A.R.S.M.,<br>F.I.C., F.C.S. .... | 21 | Granville road, Cambrian view                             |
| Lowe, Mrs. ....                                    | "  | "                                                         |
| Lowe, Mr. Jas. F., B.A. ....                       |    | Dee Banks                                                 |
| Lowe, Mrs. ....                                    | "  | "                                                         |
| *Lucas, Mr. A. W., F.G.S. ....                     | 7, | Victoria pathway, Queen's park                            |
| Lund, Mrs. ....                                    |    | Thorpe villa, Liverpool road                              |
| Luxmoore, Mr. E. B., J.P., F.G.S. ...              |    | Bryn-Asaph, St. Asaph                                     |
|                                                    |    |                                                           |
| *Macdonald, Mr. G. ....                            | 3  | Abbey square                                              |
| Mahley, Mr. H. ....                                |    | Aston, Nantwich                                           |
| *Manning, Mr. J. B. ....                           |    | The Governor's House, H.M. Prison,<br>Pentonville, London |
| Manning, Miss Edith ....                           | 18 | Upper Northgate street                                    |
| Mann, Mr. A., M.B. ....                            |    | Newgate street                                            |
| Mannington, Mr. Herbert T. ....                    |    | Flint                                                     |
| Marchant, Mr. W. H. ....                           |    | Whitefriars House                                         |
| Marsden, Miss ....                                 | 6  | Gosvenor park road                                        |
| Mason, Mr. F. B. ....                              | 3  | Lorne street (North)                                      |
| Massie, Admiral ....                               | 3  | Stanley place                                             |
| Massy, Miss ....                                   |    | Greenbank, Latchford                                      |

- Mawdsley, Miss M. M. ....8 Eaton road  
 Mawdsley, Miss J. G. .... "  
 Mawdsley, Mr. W. H. .... "  
 McEwen, Mrs. ....26 Nicholas street  
 McKindlay, Mr. Andrew.....Aldford, Chester  
 Meakin, Mrs .....Richmond Bank, Boughton  
 \*Mills, Mr. John .....4 Eastgate row  
 Mills, Mrs ..... "  
 \*Miln, Mr G. P. ....27 Chichester street  
 Miln, Mrs. .... "  
 Milne, Mr. ....8 Ash Grove, Wrexham road  
 Milne, Mrs..... "  
 Minshull, Mr. E. ....The "Northgate "  
 Minshull, Miss ..... "  
 Montgomery, Rev. J. K. ....Abbot's villas, Liverpool road  
 Moreton, Mr. J. E., F.R.C.S. ..Tarvin  
 Moreton, Mrs..... "  
 \*Morris, The Rev. Canon, D.D. ..Eaton, Chester  
 Morris, Miss Margaret.....Wilton House, Pepper street  
 Morris, W. J.....Norton villa, Upton park  
 Morris, Mr. R. W. ....Cathedral Studio, St. Werburgh street  
 Musgrave, Mrs. ....45 White friars  
  
 \*Newstead, Mr. R., F.E.S. ....The Grosvenor Museum  
 Nicholls, Mr. G. F. ....12 Chichester street  
 Nicholson, Mr. J. M. ....Little Sutton, Chester  
  
 \*Okell, Mr. E. W. ....22 Northgate street  
 Okell, Mr. P. H. ....1 Northgate street  
 \*Okell, Miss M. H.....6 Curzon park  
 Okell, Miss A. .... "  
 Oldfield, Mrs. ....68 Northgate street  
 Oldfield, Miss.....Bryn Clwyd, St. Asaph  
 Oldmeadow, Mr. Geo. E. ....65 Parkgate road  
 Orton, Mr. R. O., J.P. ....Tattenhall, Chester  
  
 \*Pares, Mr. Bernard, B.A. ....11 Raymond street  
 Parkes, Mr. A. ....Bridge street row  
 Parkes, Mrs. .... "  
 Parry, Mr. Gilbert.....Farndon Hall, Chester  
 \*Parry, Mr. T. S., M.B. ....10 Upper Northgate street  
 Parry, Mr. Morris .....21 Victoria road  
 Partington, Mr. John T. ....Denbigh villas, Cheyney road  
 Payne, Miss .....4 Abbey green  
 Payne, Miss A. .... "  
 Phillipson, Mr. J. ....12 "Liverpool" road  
 Phillipson, Mr. H. G. .... "  
 Podmore, Miss .....3 Eastern pathway, Queen's park  
 Porter, Mrs. ....Crowthorne, Childer Thornton, Chester  
 Potts, Miss A. M. ....Heron Bridge  
 Potts, Miss C. L. .... "  
 Potts, Capt. H. J., J.P. ....Glanrafon, Mold  
 Powell, Mr. E. ....Eastgate row  
 Powell, Mr. T. J. ....14 Newgate street  
 Powles, Mr. A. E. ....6 Abbey square  
 Preston, Mr. F. M. ....Abbot's grange, Liverpool road  
 Price, Mr. Paul .....Bryntirion, Chichester street

|                             |    |                                |
|-----------------------------|----|--------------------------------|
| *Price, Mr. Walmsley        | 26 | Watergate row                  |
| Price, Miss                 | 53 | Rutland terrace, Parkgate road |
| Prichard, Mr. Geo.          | 9  | The Groves                     |
| Prichard, Miss              | "  | "                              |
| Pye, Mr. Jas.               |    | Clovelly House, Eversley park  |
| Pye, Mrs.                   |    | "                              |
| *Pye, T. E.                 |    | Gasworks, Shrewsbury           |
| Rayner, Miss                |    | Ash grove, Wrexham road        |
| Ray, Miss                   | 3  | Eastern pathway, Queen's park  |
| Reade, Mr. Albert William   | 11 | Lorne street                   |
| Reade, Mr. Walter           | "  | "                              |
| Richardson, Mr. A.          |    | Bridge street row              |
| Roberts, Miss               |    | Bank Cottage, Neston           |
| Roberts, Miss M.            | 8  | Nicholas street                |
| Roberts, Dr. J.             | 8  | Abbey square                   |
| Roberts, Mr. Hugh           |    | Crypt Chambers                 |
| Roberts, Miss Johnson       | 7  | Lumley road, Liverpool road    |
| Roberts, Miss               |    | Richmond Bank, Boughton        |
| Roberts, Miss               |    | Overleigh, Hough green         |
| Roberts, Miss C. F.         | "  | "                              |
| Roberts, Mr. B. C.          |    | Kingston House                 |
| Rogers, Mr. James           |    | The Cross                      |
| Rogers, Mr. Jno.            |    | Watergate House                |
| Rogers, Mr W.               | "  | "                              |
| Rogerson, Mr. G. H.         | 4  | Nicholas street                |
| Royle, Mrs. T. V.           |    | Queen's park                   |
| Royle, Mr. T. R. P.         |    | Hough Green House              |
| Royle, Mrs.                 |    | "                              |
| Ryan, Mr. Thos.             |    | Castle Hill House, Flint       |
| Sandbach, Mr. S. H., J.P.   |    | Cherry Hill, Malpas            |
| *Sandford, Mrs.             |    | Queen's School                 |
| Sant, Mr. T.                |    | Frodsham                       |
| Schröder, Mr W. G.          |    | Queen's Park Farm              |
| Scott, Mr. John             | 19 | Chichester street              |
| Scott, Rev. S. Cooper, M.A. |    | St. John's Rectory             |
| Segar, Mr. F., L.D.S.E.     |    | White Friars House             |
| Sharpe, Mr. F. W.           | 7  | Abbey square                   |
| Sharpe, Mr. Alan            | "  | "                              |
| Sharp, Mr. W. E.            |    | Hallwood, Ledsham              |
| *Shepherd, Mr. T., F.R.M.S. |    | Kingsley Lodge, Liverpool road |
| Shepherd, Miss              | "  | "                              |
| Shepherd, Miss Emma         | "  | "                              |
| Shepherd, Miss F.           | "  | "                              |
| Shepherd, Miss Rose         | "  | "                              |
| *Shone, Mr. W., F.G.S.      |    | Upton park                     |
| Shone, Mrs.                 | "  | "                              |
| Shrubsole, Mr. Alfred       |    | Town Hall square               |
| Shufflebotham, Mr. John H.  | 8  | Chichester street              |
| *Siddall, Mr. J. D.         | 19 | Eaton road                     |
| Siddall, Mrs.               | "  | "                              |
| Siddall, Miss Annie         | "  | "                              |
| Sitwell, Mrs.               |    | 2 Eaton road                   |
| Small, Mr. A. H.            |    | The Leadworks                  |
| Small, Mr. Jas. P.          | 3  | Deva terrace                   |
| Smith, Mr. T.               |    | Blacon Point, Chester          |
| Smith, Mrs. S.              | 16 | Nicholas street                |

|                                                  |     |                                                                |
|--------------------------------------------------|-----|----------------------------------------------------------------|
| Smith, Miss H. ....                              | 3   | Chichester street                                              |
| Smith, Mr. John .....                            |     | Market square                                                  |
| Smith, Mr. T. J. ....                            |     | Moor House, Flookersbrook                                      |
| Smith, Mrs. ....                                 |     | " "                                                            |
| Smith, Mr. D. Ramsey .....                       | 20  | Prestage street, Poplar, London, E.                            |
| Smith, Mr. E. Heber .....                        |     | Grosvenor Museum                                               |
| Smyth, Miss Lyle .....                           |     | Barrowmore Hall, near Chester                                  |
| Spencer, Mr. J. H., .....                        | 36  | Bridge street                                                  |
| Spencer, Rev. Walter .....                       |     | Ely Grange, Frant, Tunbridge Wells                             |
| Spooner, Miss .....                              |     | Newton Cottage, near Chester                                   |
| Spinks, Mr. Robt. C. ....                        | 98  | St. Anne street                                                |
| Stevenson, Mr. A. ....                           |     | Grosvenor park road                                            |
| Stewart, Mrs. ....                               | 39  | White friars                                                   |
| Stockley, Lt.-Col. ....                          | 78  | Watergate street                                               |
| *Stolterfoth, Dr. H., M.A., J.P. ....            | 1   | Grey friars                                                    |
| Stolterfoth, Mrs. ....                           | " " | " "                                                            |
| Stolterfoth, Miss .....                          | " " | " "                                                            |
| Storr, Mr. F. ....                               | 21  | The Groves                                                     |
| Storr, Miss .....                                | " " | " "                                                            |
| Storarr, Miss S. ....                            |     | Newgate street                                                 |
| *Strahan, Mr. Aubrey, M.A., F.G.S. {             |     | H.M. Geological Survey, Museum,<br>Jermyn street, London, S.W. |
| *Sturgeon, Mr. J., C.E. ....                     |     | Upton, Chester                                                 |
| Sumner, Mrs. A. ....                             |     | South view, Eaton road                                         |
| Sutcliffe, Miss Emily B. ....                    | 3   | Crane street                                                   |
| *Tate, Mr. A. Norman, F.I.C. ....                | 9   | Hackin's Hay, Liverpool                                        |
| Tatler, Mr. A. A. ....                           |     | May Bank, 11 Tarvin road                                       |
| Taylor, Mr. Hy. Enfield, J.P., M.Inst. C.E. .... |     | Aston Hall, Hawarden                                           |
| Taylor, Mr. J., F.R.C.S. ....                    |     | Haygarth house, Newgate street                                 |
| Taylor, Mr. John .....                           |     | Hoole Hall Gardens                                             |
| Taylor, Mr. A. G. ....                           | 9   | Paradise row                                                   |
| Taylor, Mr. J. Burnside .....                    | 4   | Hough green                                                    |
| Taylor, Mr. R. Mascie. ....                      |     | Tyn Llwyn, Corwen                                              |
| Taylor, Mr. Hy., F.S.A. ....                     | 12  | Curzon park                                                    |
| Taylor, Mrs. J. W. ....                          | 8   | Ash grove                                                      |
| Thomas Mr. ....                                  | 18  | Pepper street                                                  |
| Thomas, Dr. E. J. Haynes .....                   | " " | " "                                                            |
| Thomas, Miss .....                               | " " | " "                                                            |
| Thomas, Miss M. ....                             | " " | " "                                                            |
| Thomas, Miss F. M. ....                          | " " | " "                                                            |
| *Thomas, Mr. H. ....                             | 12  | Neville Crescent, Llandudno                                    |
| Thomas, Mr. Maurice .....                        | 27A | Tarvin road                                                    |
| Thomas, Mr. Felix .....                          |     | The Industrial Schools, Boughton                               |
| Thomas, Mr. E. H. ....                           | " " | " "                                                            |
| Thomas, Mr. J. H. ....                           |     | Chemist, Watergate street "                                    |
| Thompson, Mr. J. C. P. ....                      |     | Netherleigh                                                    |
| Thompson, Mrs. H. ....                           |     | Brightholme, Curzon park                                       |
| Thomson, Miss I. ....                            |     | Cambrian view                                                  |
| Thornthwaite, Miss E. M. ....                    | @   | Mrs. Hincks, Northgate street                                  |
| Tilston, Miss .....                              | 1   | King's buildings                                               |
| Tinkler, Mr. G. ....                             | 45  | Nicholas street                                                |
| Tomkinson, Mr. Jas., J.P. ....                   |     | Willington Hall, Chester                                       |
| Tomlin, Mrs. ....                                |     | Thorpe villa, Liverpool road                                   |
| Tomlin, Miss Libian Ethel .....                  | " " | " "                                                            |
| Tomlin, Miss Edith Clarabel ....                 | " " | " "                                                            |
| Townshend, Mr. C. W., J.P. ....                  |     | Trevallyn, Wrexham                                             |
| Trafford, Mr. A. ....                            | 48  | Upper Northgate street                                         |

- Trelawny, Mr. H. D., J.P. .... Shotwick park, Chester  
Trelawny, The Hon. Mrs. .... " " "  
Tyrer, Mrs. Alfred ..... Plas Newton, Chester
- Vernon, Miss ..... Bache Cottage, Chester  
\*Vincent, Mr. W. .... Brook lodge, Brook lane  
Vincent, Mrs. .... " "
- Wakefield, Mr. T. .... 3 Lorne street  
Wakefield, Miss A. E. .... " " "  
\*Walker, Mr. A. O., J.P., F.L.S. .... Nant-y-Glyn, Colwyn Bay  
Walker, Mrs. .... " "  
Walker, Miss ..... 12 Liverpool road  
\*Ward, Mr. J. C. .... Bryn Estyn, Hough green  
Ward, Miss. .... " " "  
Way, Mr. N. A. E. .... 1 Stanley street  
Weaver, Mr. W. M. .... Westminster buildings  
\*Webster, Mr. G. Watmough. F.C.S. .. 5 Eversley park, Liverpool road  
Webster, Mrs. .... " " "  
Webster, Mr. Sirrell M. .... " " "  
Webster, Miss Amy B. .... 52 Watergate street  
Wells, Mr. E. .... Eccleston, Chester  
Whalley, Mr. Fred. H., P.A.S.I. .... 98 Church street, Birkenhead  
White, Miss E. .... 5 Abbey street  
Whiteley, Mr. F. .... Helsby, Warrington  
Wigg, Mr. Charles ..... Hoole bank, Chester  
Wilbraham, Miss E. .... 5 King's buildings  
Wilbraham, Miss F. .... " "  
Wilcock, Mr. T. M. .... 26 Newgate street  
Wilkinson, Mr. R. .... 17 Victoria road  
Wilkinson, Mr. J. R. .... " "  
Williams, Mr. J. E. .... Westminster buildings  
Williams, Mr. C. R. .... The Mount, Waverton  
Williams, Mr. John ..... Aber Cottage, Saltney  
Williams, Mr. A. C. .... 15 Newgate street  
Williams, Rev. J. R., M.A. .... Pulford Rectory, Wrexham  
Williams, Miss ..... 8 Hamilton street, Hoole  
Williams, Mr. Pryce H. .... " " "  
Williams, Miss ..... 31 Hough green  
Williams, Mr. R. J. .... 6 Eaton road  
Williams, Miss Aldersey ..... 96 Watergate flags  
Wiseman, Mr. C. .... The Poplars, Dee Banks  
Wiseman, Mr. Henry ..... " "  
Wood, Mr. R. Stewart ..... Eccleston, Chester  
Wood, Miss ..... 28 Queen street  
Woodfin, Miss ..... 26 Lorne street  
\*Wright, Mr. J. M., A.M.I.C.E. .... Water Engineer's Office, Dale street,  
Liverpool  
Wright, Mr. A. J. .... 11 Bridge street row  
Wright, Mrs. .... " "  
\*Wynne, Mr. Geo. F. .... Plas Gwyn, Minera, Wrexham  
Wynne, Mr. J. H. .... 72 Tarvin road
- Yeadon, Mr. Thos. .... 28 St. Anne street

\* \* A New Edition of the Catalogue of Books in the Society's Library will shortly be published. The usual list of recent additions has been omitted from this Report.

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## THE LIBRARY

Is open to the Members, and Books may be obtained on the following days :—

|                 |             |
|-----------------|-------------|
| MONDAYS .....   | 7 to 8 p.m. |
| THURSDAYS ..... | 7 " 8 "     |
| SATURDAYS ..... | 2 " 4 "     |

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NOTICE.—*Copies of the SOCIETY'S PROCEEDINGS (No. 1, price 6d., Nos. 2 and 3, price 2/6 each), may be obtained from MR. JOHN MILLS, Eastgate Row; MR. G. R. GRIFFITH, Grosvenor Street; or the CURATOR, Grosvenor Museum.*

*Pres?*  
28 JUN. 92

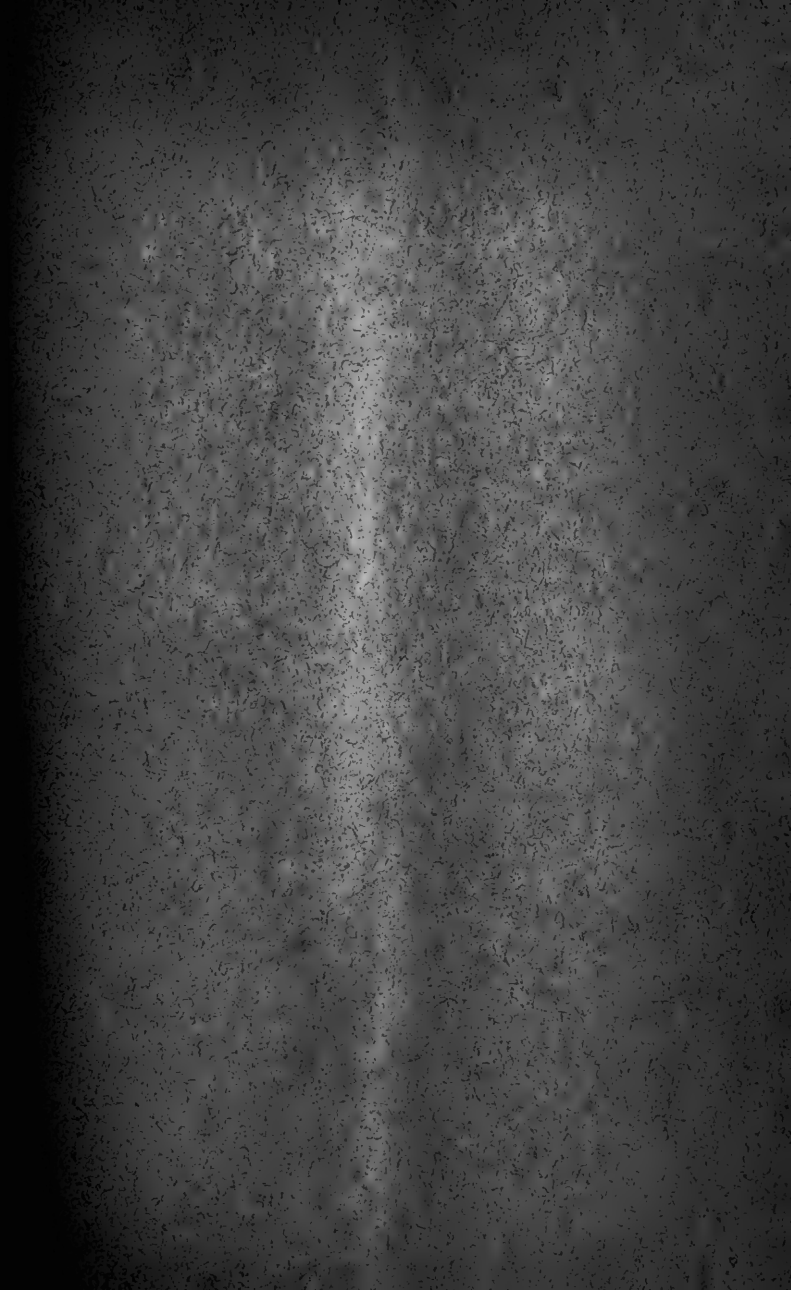






CHESTER :

G. R. GRIFFITH, PRINTER,  
GROSVENOR STREET.





CHESTER

Society of Natural Science & Literature.

*(Founded by Charles Kingsley, 1871.)*

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TWENTY-SECOND

ANNUAL REPORT

AND

STATEMENT OF ACCOUNTS,

FOR THE YEAR 1892-93.



CHESTER :

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCXCIII.



CHESTER SOCIETY  
OF  
NATURAL SCIENCE AND LITERATURE

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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TWENTY-SECOND  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS FOR 1892-93,

AND THE  
LIST OF MEMBERS FOR 1893-94,

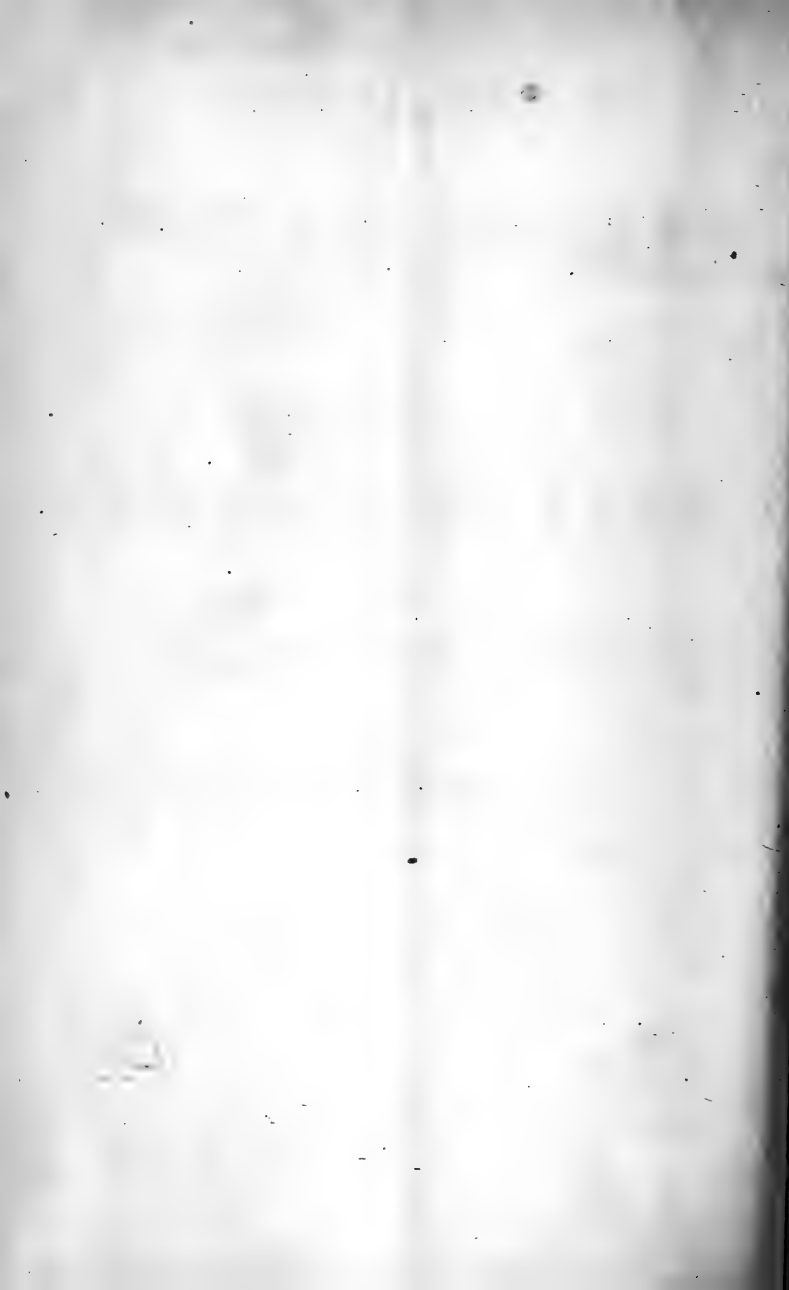
ALSO  
A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION, &c.



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CHESTER :  
PRINTED BY G. R. GRIFFITH, "THE CASTLE" PRINTING WORKS.

MDCCCXCIII.





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MR. R. NEWSTEAD, F.E.S., *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its object be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in a Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section, may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business; Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting which will be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six Days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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YOUR Committee again bring before the Members of the Society their Annual Report. The work has now been carried on for twenty-two years, and we still have amongst us many who assisted at the founding and organizing of the Society and who continue to take an active interest in its prosperity. The past year has been one of steady progress. Another Section has been added to our list—"The Astronomical"—so we have in all eight Sections embracing the chief subjects which are included in the large field of Natural Science and Literature.

We have on our list six hundred and sixty Ordinary Members, twenty-four Honorary Members, and fifteen Corresponding Members. Ninety-nine new Members have joined the Society during the past year, and by death and removal we have lost thirteen.

It is with regret we record the death of MR. T. BENNION ACTON, one of the staunch supporters of our Society. Though he did not live in Chester, he was rarely absent from our Annual Conversaciones and Excursions. He was a most able Botanist, and made a special study of our Cryptogamic Plants; he also had a sound knowledge of Geology, gained by personal observation. His loss is a great one to the Society, and all who knew him personally will feel they have parted with a true friend, and one who, during a useful and busy life, did much to further the interests for which this Society exists.

HIS GRACE THE DUKE OF WESTMINSTER has during the past year occupied the position of President, and to his unfailing kindness and courtesy we are deeply indebted. His Grace has materially assisted the Society from its very commencement, and some of the finest specimens in the Museum come from the Eaton Estate, and were presented by him.

The Natural History Collection has been steadily growing under the fostering care of our admirable Curator, MR. NEWSTEAD. Unfortunately, the limited space at our disposal is a hindrance to the Members fully realizing the work that has been done. It is to be hoped that the Management Committee of the Building will shortly see its way to give us a larger and more convenient room. The Curator's Report, which is certain to be interesting, will give detailed accounts of the actual work done and a list of the specimens received.

The Library has been re-catalogued and the Books placed in order. We possess many valuable Pamphlets, which have been arranged and bound. We have also received a valuable present from MR. BALLARD in "The Journal of Chemical Industry" from its commencement; this will be useful as a book of reference.

The Treasurer's Financial Statement shews a considerable balance against the Society. This has arisen partly from necessary expenditure in the Natural History Museum, by providing for the mounting and better display of the specimens; also in the Library, by having had a large number of books bound and providing additional shelving. The greater part of the expenditure under these headings is exceptional, and will not be likely to recur again. The more frequent sending of Notices to the Members during the past winter has also considerably increased the amounts for printing, postages, &c. On the other hand, it is gratifying to note that the amount received for Members' Subscriptions is a little larger than in any previous year since the foundation of the Society.

The Accounts of the Kingsley Memorial Fund will be placed before you by the Honorary Treasurer, MR. E. J. BAILLIE.

The special work of the Society may be set forth under the following heads:—

EXCURSIONS	SECTIONAL MEETINGS
FIELD MEETINGS	CONVERSAZIONE
GENERAL MEETINGS	PRIZES

The following Excursions were made during the past year :—

1892.

May 25th .....	Glyn Ceiriog.
June 15th .....	Welshpool and Powis Castle.
July 20th .....	Burton Point.
Aug. 24th .....	Manchester Ship Canal.

It will be seen that there were four Excursions during the season, all of which were well attended and the weather propitious ; a piece of good fortune, as the summer of 1892 was chiefly remarkable for its changeableness.

#### EVENING RAMBLES.

1892.

June 1st .....	Wild Marsh, Sealand.
„ 8th .....	Christleton Hall Gardens.
„ 21st .....	Delamere Forest.
„ 29th .....	Upton and Newton Nurseries.
July 18th .....	Eaton Avenue.
„ 27th .....	Waverton.
Aug. 4th .....	Hoole Hall Gardens.

The Evening Rambles have again been very popular, but were not continued through August and September as it was found during that period some of the most regular attendants were away from the City. The Evening Rambles have been made available for the general business of the Society, which requires that there shall be at least six meetings in the summer. It will be seen the Society went out eleven times in all.

We have always endeavoured to make our more distant Excursions as attractive as possible, but of late years, owing to so many day excursions being organized from the City, your Committee found it prudent to reduce their number. This may not occur another year.

The Annual Conversazione took place earlier than usual, viz., on the 12th of September, 1892. It was held in the Town Hall and was well attended, every Member being anxious to make it a success inasmuch as it was the twenty-first of a continuous series since the founding of the Society. We were

glad to welcome many old friends, though we regretted the absence of others, and especially that of MISS KINGSLEY, who wrote most kindly on the occasion regretting her inability to be present.

The Kingsley Memorial Medal was presented to MR. OSMUND W. JEFFS for his local Geological work. The Members of the Society are deeply indebted to MR. JEFFS for the aid he has always given them, both on Excursions and in reading Papers.

Beside the usual objects shown in the different rooms in the Town Hall, we have to thank the REV. J. E. VIZE and MR. SIDDALL for giving special Lectures, which were not only beautifully illustrated, but proved very interesting.

The Kingsley Memorial Prize of £10 was awarded to MR. W. E. SHARP for his Collection of *Coleoptera*, and other awards were made to MR. J. ARKLE, MR. A. NEWSTEAD, and MR. G. H. EVANS. On the day following the *Conversazione*, all the Members of the Society received an invitation from HER GRACE THE DUCHESS OF WESTMINSTER, to a Garden Party at Eaton, when they had the opportunity of seeing a splendid Collection of Exotic Insects displayed in the Library. The Collection consists of about two hundred drawers of the most gorgeous insects, which in colouring vie with the beauty and splendour of the tropical plants and flowers of their native habitat.

We desire to record the best thanks of our Society to the retiring President, HIS GRACE THE DUKE OF WESTMINSTER.

The following Papers have been read at the General Meetings:—

1892.

Oct. 27—"St. Mark's Cathedral, Venice", by J. ERNEST PHYTHIAN, ESQ., Manchester.

Nov. 24—"With the Camera in the Canary Islands", by J. H. T. ELLERBECK, ESQ., Liverpool.

1893.

Jan. 17 "The Moon," by W. E. PLUMMER, ESQ., M.A., F.R.A.S.

Feb. 23—"Sewage Treatment and Disposal", by THOMAS WARDLE, ESQ., F.C.S., F.G.S., of Leek.

Mar. 30—"The Sun and his Family", by PROFESSOR BARRELL, M.A., B.Sc., University College, Bristol.

Apr. 27—Annual Meeting, and "A trip through Algeria and Tunis", with views by CAPTAIN LAMB, and explanations by CAPTAIN COOPER, A.D.C.

These Meetings have been well attended, and the illustrations by Lantern Slides have greatly enhanced the value of the Lectures, as both the observant and reflective faculties are called into play.

The different Sections into which the Society is divided have met as follows:—

#### PHOTOGRAPHIC SECTION.

1892.

Nov. 3—"A Photographic Survey of Chester and neighbourhood", by MR. J. H. SPENCER, Secretary.

Dec. 15—"The Chemistry of Modern Dry-plate Photography", by MR. C. A. KOHN, Ph.D., B.Sc., and Lecturer on Chemistry at University College, Liverpool.

1893.

Jan. 19—"Printing out Emulsion Paper"; "Printing, Toning, and Mounting", by MR. J. H. SPENCER, Secretary.

Feb. 16—Lantern Night—Slides by Members of the Section.

Mar. 16—Exhibition of Lantern Slides, illustrating the Photographic Survey of Chester and neighbourhood.

Apr. 17—Annual Meeting of the Members.

The Committee of this Section are extremely anxious to enlist the sympathy of the Members to do real and systematic work which cannot be done without co-operation. For a small fee the Members of the Section can obtain special privileges, viz., the use of the Dark Room at the Museum, and as it is now proposed to affiliate the Section to the Photographic Society of Great Britain, those who pay the extra 2/6 will gain, not only the advantage of exhibiting, but also admission to the Pall Mall Exhibition. The Parent Society will look to the new Members for help, whilst affording them material assistance. Particulars will be furnished to the Members of the Section by the Secretary.

## SECTION OF LITERATURE.

1893.  
 Feb. 5—"Rowland Egerton-Warburton and his Hunting Songs and Poems", by MR. T. CANN HUGHES, B.A.  
 Mar. 6—"Shakspeare on the Stage, or Shakspeare in the Study?" by the REV. A. H. FISH, B.A., B.Sc., Secretary.  
 Apr. 10—"History and History Text-Books", by the REV. J. M. NEW, M.A.

## BOTANICAL SECTION.

1892.  
 Nov. 10—"The Lily and the Rose", by MR. LEO H. GRINDON, Manchester.  
 1893.  
 Jan. 5—"A Holiday Ramble in Cornwall", by MR. J. D. SIDDALL, Secretary.  
 Apr. 20—In place of the Sectional Meeting, a visit to Messrs. Dicksons' Nurseries, under the leadership of MESSRS. BAILLIE and MILN.

## ZOOLOGICAL SECTION.

1892.  
 Nov. 17—"Notes and observations on additions to the Natural History Museum during the past year", by MR. R. NEWSTEAD, F.E.S., Curator.  
 1893.  
 Jan. 12—Conversational Evening among the Members.  
 Mar. 9—"Some Notes on the Fauna of the Wirral Peninsula", by MR. W. E. SHARP.

## GEOLOGICAL SECTION.

1892.  
 Dec. 1—"Some local Notes upon Pre-Roman Inhabitants of the North-west of England and Wales", by MR. W. SHONE, F.G.S., Chairman.  
 1893.  
 Feb. 2—"A Holiday Ramble in the Bermese Oberland", by MR. A. W. LUCAS, F.G.S., Secretary.  
 Apr. 6—"Some Commercial Aspects of Geology, with special reference to Building Stones", by MR. OSMUND W. JEFFS.

## NATURAL PHILOSOPHY SECTION.

1892.  
 Dec. 8—"A Chat about Thermometers", by MR. G. WATMOUGH WEBSTER, F.C.S., Chairman.  
 1893.  
 Feb. 9—"Disinfectants", by MR. J. BAIRSTOW, F.C.S.  
 Apr. 13—Conversational Evening.

## ASTRONOMICAL SECTION.

1892.  
 Dec. 19—"Mars and Jupiter—a Planetary Contrast", by MR. F. W. LONG-BOTTOM.  
 1893.  
 Jan. 26—"The New Comet", by the REV. J. C. MITCHELL, B.D., F.R.A.S., Chairman.  
 Feb. 20—"Some remarks on an experience with Refracting and Reflecting Telescopes", by DR. DOBIE.  
 "Observations on the February Constellations", by the CHAIRMAN.



ASTRONOMICAL SECTION—*Continued.*

1893.

Mar. 23—"Photography as an aid to Astronomical Observation", by  
MR. R. C. JOHNSTONE, F.R.A.S.

"The March Constellations", by the Chairman.

Apr. 18—"What to see, and how to see it, with a three-inch Telescope", by  
the CHAIRMAN.

"The Planet Saturn", by MR. F. W. LONGBOTTOM.

MICROSCOPICAL SECTION.

1893.

Mar. 2—"Notes on the Microscopical Examination of Chester Water",  
by MR. J. D. SIDDALL, Secretary.

It will be seen from the foregoing list, that there have been twenty-six Sectional Meetings during the past winter. This could not have been arranged, if, as in previous years, we had been restricted to Thursday Evenings only. Both the Literature, Astronomical, and Photographic Sections, have taken other evenings in the week for their Meetings.

The attendance at some of the Sectional Meetings, during the past winter, has been very satisfactory; while others have fallen off, notably those which deal purely in Natural History.

The Astronomical Section is to be congratulated on the vigour with which it has commenced its work, and it will be seen from the names of those who have read Papers, that we have amongst us several new workers.

A pleasing feature of the Report is the continued prosperity of the Paxton Society. It is doing valuable practical work, and the mere fact that no less than five of its Members have been engaged by the Cheshire County Council as Lecturers, is sufficient proof of its usefulness.

Your Committee have met seventeen times during the past year, and as far as lay in their power, have endeavoured to promote the interests of the Society, and to arrange as far as possible for the convenience of the Members. In resigning their office at the end of the year, they hope that they leave the Society as vigorous as it has ever shown itself during the past twenty-two years.

HENRY STOLTERFOTH, M.A., M.D.,

*Scientific Secretary.*

APRIL 27TH, 1893.

## CURATOR'S REPORT.

YOUR Curator has much pleasure in stating that during the past year there has been a decided increase in the additions to the Natural History department of the Society's Museum. Last year the total of the number of species was 289, and of specimens 739. The total for the present year shows an increase of 177 species, and 541 specimens.

The total abstract of the number of species and specimens is as follows:—

	*Species Presented or Acquired.	Species Purchased.	Total of Species.	Total of Specimens.
<i>Echinodermata, &amp;c.</i> .. ..	3	..	3	3
<i>Acari</i> .. ..	1	..	1	10
<i>Coleoptera</i> (Beetles) .. ..	244	..	244	590
<i>Orthoptera</i> (Grasshoppers, &c.) ..	1	..	1	7
<i>Hymenoptera</i> (Bees, &c.) .. ..	18	..	18	54
<i>Neuroptera</i> (Dragon Flies, &c.) ..	13	..	13	77
<i>Lepidoptera</i> (Moths, &c.) .. ..	28	..	28	54
<i>Coccidæ</i> (Scale Insects) .. ..	2	..	2	7
<i>Hemiptera</i> (Plant Bugs, &c.) ..	86	..	86	308
<i>Diptera</i> (Two-winged Flies) .. ..	4	..	4	28
<i>Conchology</i> (Shells) .. ..	12	..	12	43
<i>Pisces</i> (Fish) .. ..	4	..	4	8
<i>Aves</i> (Birds) .. ..	31	3	34	48
Eggs .. ..	3	..	3	13
<i>Mammalia</i> (Animals) .. ..	4	1	5	8
Geology .. ..	8	..	8	12
Miscellaneous .. ..	..	..	..	10
<b>TOTAL</b> .. ..	<b>462</b>	<b>4</b>	<b>466</b>	<b>1280</b>

\* Includes Kingsley Memorial Collections.

The additions chiefly consist of Insects of the Orders *Coleoptera*, *Neuroptera*, and *Hemiptera-Homoptera*. But additions have also been made to several other Orders as will be seen on referring to the detailed list. Three additional Life-Histories of Injurious Insects have been prepared, and several are being worked out.

By kind permission of the Committee many of the Life-Histories of the Farm and Fruit Pests have been used in connection with a series of Lectures on Economic Entomology

given by your Curator, under the auspices of the Cheshire County Council, which, it is hoped, have proved most useful and instructive.

For the valuable help in the identification of difficult species your Curator is indebted to Mr. G. B. BUCKTON, F.R.S., Mr. E. SAUNDERS, F.E.S., and Mr. A. O. WALKER, F.L.S.

A few interesting and rare birds have been added, notably a fine male specimen of the *Bittern* (by purchase), and a Life-History Group of the *Common Buzzard* has been prepared, but materials are still wanting for its completion. Mr. S. WILSON ROBERTS has furnished us with a nice series of the Llanberis Char, (*Salmo perisii*, *Gunthar*), which are a valuable and interesting addition.

During the last five years a quantity of specimens have been preserved in Methylated Spirit, but for the want of suitable Glass Jars and Tubes these could not be exhibited. Quite recently, however, a stock of the latter was purchased, and the material has been placed in the Museum. MR. A. O. WALKER has very kindly presented six gallons of the old Methylated Spirit, which can only be obtained by special permission of the Government from the Methylators. Without this it is impossible to make preparations for the preservation of fish and numerous other objects. The new form of Methylated Spirit is so prepared that, when mixed with water, it becomes opaque; which renders it useless for Museum work.

In the Geological Department, the collection of Prehistoric Implements have been rearranged and incorporated with those belonging to the Chester Archæological Society. To these your Curator has added some Coloured Plaster Casts of rare and fine examples, the originals of which are private property. It is intended to make this department as representative as possible, and it is hoped that those possessing such relics will kindly allow Casts to be taken from them.

Your Curator has much pleasure in stating that he has rearranged the whole of the Books forming the Society's Library, and provided a MS. Catalogue, of which it is hoped printed copies will shortly be issued.

In conclusion, your Curator thanks all those who by their gifts, or loan of books, have assisted in the development of their Museum, and asks, on behalf of his Committee, for their continued support.

## LIST OF DONORS AND \*ADDITIONS.

## ECHINODERMATA.

				Species.	Specimens.
Miss Wilson ..	..	..	..	2	— 2
Mr. A. W. Lucas	.	..	..	1	— 1

## ACARI (Mites.)

Curator	..	..	..	1	— 10
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## COLEOPTERA (Beetles.)

Mr. F. R. Bolland	.	..	..	..	1 — 3
Curator ..	.	.	..	..	7 — 18
Mr. Jas. Dutton	..	..	..	..	1 — 2
Mr. T. R. Hodges	..	..	..	..	1 — 4
Mr. R. Newstead, Senr.	..	..	..	..	1 — 2
Miss Shephard	..	..	..	..	1 — 1
Mr. A. O. Walker	..	..	..	..	6 — 9
Mr. W. E. Sharp	..	..	..	23*	— 560

## ORTHOPTERA (Grasshoppers, &amp;c.)

Mr. J. Arkle ..	..	..	..	..	1 — 7
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## NEUROPTERA (Dragon Flies.)

Mr. J. Arkle ..	..	..	..	..	13 — 77
-----------------	----	----	----	----	---------

## HYMENOPTERA (Bees, &amp;c.)

Mr. E. J. Baillie	..	..	..	..	1 — 2
Mr. A. Newstead	..	..	..	..	1 — 3
Mr. Cecil Smith	..	..	..	..	1 — 1
Miss E. C. Tomlin	..	..	..	..	3 — 9
Mr. A. O. Walker	..	..	..	..	2 — 6
Curator	..	..	..	..	10 — 33

## LEPIDOPTERA (Moths, &amp;c.)

Mr. J. Arkle ..	..	..	..	..	16 — 27
Rev. J. L. Bedford	..	..	..	..	1 — 1
Mr. S. Chalton..	..	..	..	..	1 — 1
Master R. V. Douglas	..	..	..	..	1 — 1
Mr. J. L. Denson	..	..	..	..	1 — 8
Mr. T. R. Hodges	..	..	..	..	1 — 4
Mr. H. Nicholson	..	..	..	..	1 — 1
Mr. T. Shephard	..	..	..	..	1 — 1
Curator	..	..	..	..	5 — 10

## COCCIDÆ (Scale Insects.)

Curator ..	..	..	..	..	1 — 6
Mr. T. R. Hodges	..	..	..	..	1 — 1

\* Includes Kingsley Memorial Collections.

## HOMOPTERA (Froghoppers, &amp;c.)

					Species.	Specimens.
Mr. A. Newstead	..	..	..	..	86	— 308

## DIPTERA (Two-winged Flies.)

Curator	..	..	..	..	1	— 6
Mr. J. L. Denson	..	..	..	..	1	— 1
Mr. Hodgkinson	..	..	..	..	1	— 1
Mr. Storrar	..	..	..	..	1	— 20

## CONCHOLOGY (Shells.)

Mr. Evans	..	..	..	..	11	— 42
Master E. Moore	..	..	..	..	1	— 1

LIFE-HISTORIES OF INJURIOUS INSECTS  
(Diptera.)

Curator	..	..	..	..	4	— 28
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## ARACNIDA (Spiders.)

Mr. Cecil Smith	..	..	..	..	1	— 1
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## PISCES (Fish.)

Mr. John Buckley	..	..	..	..	1	— 1
Mr. H. Fleet	..	..	..	..	1	— 1
Mr. Wilson Roberts	..	..	..	..	1	— 5
Mr. A. C. Williams	..	..	..	..	1	— 1

## AVES (Birds.)

Mr. John Bairstow	..	..	..	..	1	— 1
Mr. Wm. Banks	..	..	..	..	1	— 2
Mr. Joseph Burgess	..	..	..	..	1	— 1
Mr. J. L. Denson	..	..	..	..	1	— 1
Mr. James Dickson	..	..	..	..	1	— 1
Dr. W. H. Dobie	..	..	..	..	2	— 2
Dr. H. Dobie	..	..	..	..	5	— 6
Mr. A. H. Hignett	..	..	..	..	1	— 1
Mr. T. Hignett	..	..	..	..	1	— 1
Major Johnson	..	..	..	..	1	— 1
Mr. R. Venables Kyrk	..	..	..	..	1	— 1
Mr. S. Ledsham, Junr.	..	..	..	..	1	— 1
Mr. R. Newstead, Senr.	..	..	..	..	2	— 3
Hon. Cecil Parker	..	..	..	..	2	— 5
Mr. R. Smith	..	..	..	..	1	— 1
Mr. R. J. Smith	..	..	..	..	5	— 7
Mr. A. O. Walker	..	..	..	..	2	— 2
His Grace the Duke of Westminster, K.G.	..	..	..	..	1	— 5
Purchased	..	..	..	..	2	— 3

## NESTS AND EGGS.

					Species.	Specimens.
Mr. Garnett, Junr.	..	..	..	..	I	— 6
Lord Arthur Grosvenor	..	..	..	..	I	— 6
Master Nicholson	..	..	..	..	I	— I

## MAMMALIA (Animals).

Dr. W. H. Dobie	..	..	..	..	I	— I
Mr. Hodgkinson..	..	..	..	..	I	— I
Mr. R. J. Smith	..	..	..	..	I	— 3
Mr. A. O. Walker	..	..	..	..	I	— I
Purchased	..	..	..	..	I	— I

## GEOLOGY.

Rev. T. Cox	..	..	..	..	I	— I
Curator	..	..	..	..	-	— I
Mr. H. T. Hincks	..	..	..	..	I	— 3
Mr. A. Rowe	..	..	..	..	-	— I
Dr. Stolterfoth	..	..	..	..	3	— 3
Miss Wilson	..	..	..	..	3	— 3

## MISCELLANEOUS.

Mr. Ernest G. Moore	..	..	..	..	I	— I
Mr. L. E. Duckworth	..	..	..	..	-	— I
Mr. H. B. Killon	..	..	..	..	2 Photographs	
Mr. A. O. Walker	..	..	..	..	6 gallons of Spirit.	

R. NEWSTEAD, F.E.S.,

CURATOR.

27th April, 1893.

## SPECIAL NOTICE.

*At the recent Annual Meeting, the Hon. Treasurer's Statement showed that, owing to an unusually large expenditure (which was absolutely necessary) in the Natural History Museum and Library, there was a very considerable adverse balance.*

*This has been considerably reduced by a Donation of Twenty Guineas from the Kingsley Memorial Committee in recognition of the excellent service the Museum is doing in assisting the study of Natural Science; but there was still a balance remaining due to the Treasurer, at the time of the Annual Meeting, of over £30. That the excellent work of the Curator may not be curtailed, several Members of the Society have kindly sent donations amounting, at present, to £3 11s.*

*The Committee venture to express a hope that all the other Members of the Society will forward Donations to meet this deficit, which will be thankfully received and acknowledged by the Honorary Treasurer.*

The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1893.

17

Dr.	£	s.	d.	Cr.	£	s.	d.
1892-3.				1892-3.			
By Subscriptions—				To Balance due to Treasurer	6	10	2½
2 for 1889-90 @ 5/-	0	10	0	" Museum Management Committee	60	0	0
5 " 1890-1 @ 5/-	1	5	0	" Library .. ..	11	18	2
32 " 1891-2 @ 5/-	8	0	0	" Natural History Museum	41	13	2
573 " 1892-3 @ 5/-	143	5	0	" Printing, Stationery, &c.	47	19	0
" Balance from Excursion Account			153 0 0	" Postages .. ..	24	10	0
" Donations in aid of Natural History Museum—			2 7 4	" Subscriptions—			
From the Kingsley Memorial				National Footpaths Preservation			
Committee .. ..	21	0	0	Society .. ..	50	10	6
" several Members	3	12	0	Palaeontographical Society	1	1	0
			24 12 0	Entomological Society ..	1	1	0
				" Alfred Newstead, One Year's Wages..	2	12	6
Balance due to Treasurer			27 12 9½	" Balance on Evening Meetings' Account	6	0	0
				" Curator's Expenses to London	4	16	3
					1	12	10
					£207 12 1½		

19th May, 1893—Examined and found correct, and that a balance of Twenty-seven Pounds  
Twelve Shillings and Ninepence Halfpenny is due to the Treasurer.

JOHN MILLS, HON. TREASURER.

C. R. ENOCK, C.A., }  
BERESFORD ADAMS, } HON. AUDITORS.

# "KINGSLEY MEMORIAL" FUND.

STATEMENT OF ACCOUNT for the Year ended 30th April, 1893.

Dr.				Cr.			
£	s.	d.		£	s.	d.	
52	13	2	To Balance .. ..				By Grant to Mr. R. Newstead .. ..
17	3	8	„ Dividends from Great Western Railway .. ..				„ Kingsley Memorial Prizes and Grants, 1892, .. ..
			„ Proceeds of Sale of Book (Proceedings of .. ..				as follows :—
			C.S.N.S.) .. ..				Mr. Sharp .. ..
			„ Bankers' Interest .. ..				Mr. A. Newstead .. ..
							Mr. Arkle .. ..
							Mr. Evans .. ..
							Chester Papers for Advertisements .. ..
							„ Mr. G. R. Griffith, for Printing Copies of .. ..
							„ Prizes for 1892 ” .. ..
							„ Special Grant towards the expenses incurred re .. ..
							Natural History Museum, 1892-93, per .. ..
							Chester Society of Natural Science .. ..
							Balance .. ..

To Balance brought down (in Bank)

£70 11 0  
£20 17 0

26TH APRIL, 1893—Examined and found correct,

EDMUND J. BAILLIE,  
HON. TREASURER,

W. VINCENT,  
HON. AUDITOR.

25TH APRIL, 1893.



# PHOTOGRAPHIC SECTION.

BALANCE SHEET TO APRIL 30th, 1893.

RECEIPTS.		PAYMENTS.	
	£ s. d.		£ s. d.
To Balance from 1892	.. .. 2 5 1	By Photographic Papers	.. .. 0 17 4
„ Members' Subscriptions	.. .. 1 7 6	„ Postages	.. .. 0 1 2
		„ Affiliation Fee to Photographic Society of Great Britain	.. .. 1 1 0
		Balance in hand	.. .. 1 13 1
	<u>£3 12 7</u>		<u>£3 12 7</u>

MAY 19TH, 1893—Examined and found correct,

J. H. SPENCER, HON. SECRETARY.

BERESFORD ADAMS.

## SECTION OF LITERATURE.

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Owing to unavoidable postponements, only three Meetings have been held during the past winter.

1893.

Monday, February 6.—“Rowland Egerton-Warburton : his Hunting Songs, and Poems.” T. CANN HUGHES, ESQ., B.A.

Monday, March 6.—“Shakspeare on the Stage, or Shakspeare in the Study?”  
THE SECRETARY.

Monday, April 10.—“History and History Text-Books.”  
REV. J. M. NEW, M.A.

The Meetings, though few, have been very fairly attended.

ARTHUR H. FISH,

*Hon. Secretary.*

APRIL 27TH, 1893.



## KINGSLEY MEMORIAL MEDAL,

ESTABLISHED 1877,

*"For having contributed materially to the promotion and advancement of some branch or department of Natural Science."*—Vide Trust Deed.

- 1877—MRS. CHAS. KINGSLEY (In Memoriam.)  
 1878—JOHN PRICE, M.A.  
 1879—SIR PHILIP DE MALPAS GREY-EGERTON, BART, F.R.S.  
 1880—PROF. T. MCKENNY HUGHES, F.R.S.  
 1881—D. MACKINTOSH, F.G.S.  
 1882—ISAAC BYERLEY, M.R.C.S., F.L.S.  
 1883—GEORGE W. SHRUBSOLE, F.G.S.  
 1884—ALFRED OSTEN WALKER, F.L.S.  
 1885—JOHN DAVIES SIDDALL.  
 1886—HENRY STOLTERFOTH, M.A., M.D.  
 1887—WILLIAM SHONE, F.G.S.  
 1888—THOMAS SHEPHEARD, F.R.M.S.  
 1889—THOS. RUDDY.  
 1890—REV. CHAS. WOLLEY-DOD, M.A.  
 1891—ROBERT NEWSTEAD, F.E.S.  
 1892—OSMUND W. JEFFS.

## KINGSLEY MEMORIAL PRIZES,

ESTABLISHED 1877,

*"For the reward, encouragement, and the advancement of the pursuit and study of Natural Science."*—Vide Trust Deed.

- |      |   |                      |    |                                                                                                  |
|------|---|----------------------|----|--------------------------------------------------------------------------------------------------|
| 1878 | { | HELEN SMITH .....    | £5 | } <i>Herbarium of Flowering Plants.</i>                                                          |
|      |   | EDWIN W. OKELL....   | 5  |                                                                                                  |
| 1879 | — | GEORGE SHRUBSOLE ..  | 5  | <i>Carboniferous Fossils.</i>                                                                    |
| 1881 | — | E. HOPKINS .....     | 5  | <i>Cryptogamous Plants.</i>                                                                      |
| 1882 | — | GEORGE SHRUBSOLE ..  | 10 | <i>Corals of the Mountain Limestone.</i>                                                         |
| 1886 | — | ROBERT NEWSTEAD ..   | 10 | <i>Hymenoptera.</i>                                                                              |
| 1887 | — | JOHN LYON DENSON..   | 5  | <i>Notes of Observations illustrating the<br/>Natural Science of the Society's<br/>District.</i> |
| 1888 | — | LILIAN E. TOMLIN ..  | 5  | <i>Coleoptera.</i>                                                                               |
| 1889 | { | EDITH C. TOMLIN .... | 5  | } <i>Diptera and Hymenoptera (Terebrantia), &amp;c.</i>                                          |
|      |   | W. E. SHARP .....    | 5  |                                                                                                  |
| 1890 | — | ALFRED J. NIXON .... | 10 | <i>Land and Fresh-Water Shells.</i>                                                              |
| 1892 | — | W. E. SHARP .....    | 10 | <i>Coleoptera.</i>                                                                               |

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition, and which have already been advertised in the local newspapers:—

1893.

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prize, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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*\* \* All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors can obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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The Prizes will be awarded at the Annual Conversazione.

# SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

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- Academia Nacional de Ciencias de la Republica, Argentina,  
Cordoba.
- Barrow Naturalists' Field Club.
- Brighton and Sussex Natural History Society.
- Bristol Naturalists' Society.
- British Association (Corresponding Society's Committee.)
- British Museum (Natural History), Cromwell Road,  
London, S.W.
- Burnley Literary and Scientific Club.
- Cardiff Naturalists' Society.
- Cassel Society of Natural Science.
- Dudley and Midland Geological and Scientific Society and  
Field Club.
- Epping Forest and County of Essex Naturalists' Field Club.
- Glasgow Natural History Society.
- Hertfordshire Natural History Society and Field Club.
- Huddersfield Naturalists' Society.
- La Société d'Histoire Naturelle de St. Wladimir á Kiew, Russie.
- Leeds Naturalists' Club.
- Liverpool Geological Society.
- Liverpool Geological Association.
- Liverpool Literary and Philosophical Society.
- Liverpool Microscopical Society.
- Liverpool Naturalists' Field Club.
- Liverpool Science Students' Association.
- Manchester Field Naturalists' Society.
- Manchester Geological Society.
- Manchester Microscopical Society.
- Menai Society of Natural Science.
- Northampton Natural History and Field Club.
- North Staffordshire Naturalists' Field Club and Archæological  
Society.
- Nottingham Naturalists' Society.
- Postal Microscopical Society.
- Quekett Microscopical Society.
- Rochdale Field Naturalists' Society.
- Smithsonian Institution, Washington, D.C.
- United States Geological Survey.
- Vatican Observatory, Rome (F. Francis Denza, Director.)
- Vienna Natural History Museum.
- Wigan Literary and Scientific Society.
- Yorkshire Naturalists' Union, Leeds.

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*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


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Villanova-y-Piera .....	Professor of Geology in the University of Madrid
*Vize, Rev. J. E., M.A. ....	Forden Vicarage, Welshpool

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# NOTICE.

 *THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN MILLS, Chemist, Eastgate Row.*

 *To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.*

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 Clough, Miss .... Ashton House, New Crane street  
 Clough, Mr. G. F. .... 2 Hough green  
 Clough, Mrs. .... " "  
 Clutterbuck, Col. .... 1 Hough green  
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 Coppack, Miss Nellie .... " "  
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 Darby, Very Rev. J. L., D.D. .... The Deanery  
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 Davies, Mr. E. Henry .... 19 Francis street  
 Davies, Mr. Joseph .... " "  
 Davies, Mr. John .... Parr's Banking Co., Chester  
 Davies, Mr. J. P. .... 75 Crane street  
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 Davies, Miss .... St. Michael's Schools  
 Day, Mr. John .... Bryntirion, Parkgate road  
 Denson, Mr. W. .... 21 Upper Northgate street  
 Denson, Mrs. .... " "  
 Denson, Miss Adelaide .... " "  
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 Dobie, Miss .... " "

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 Dutton, Mrs. .... " "  
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 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 Dutton, Mrs. .... " "  
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 Elliott, Miss ..... " "  
 Enock, Mr. C. R. .... 15 Hough green  
 Enock, Mrs. .... " "  
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 Evans, Rev. T. J., M.A. .... Hargrave Rectory, near Chester  
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 Ffoulkes, Mr. Geo. B. .... 15 Chichester street  
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 \*Fletcher, Mr. P. H. .... Woodbrae, Curzon park  
 Fletcher, Miss ..... " "  
 Fluitt, Miss ..... 1 Hough green  
 Footner, Mrs. .... 4 King's buildings  
 \*Francis, Mr. F. E. .... Kilmorey park, Hoole  
 Frater, Mr. Jas. .... Tarvin road  
 Frazer, Miss ..... King's buildings  
 Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
 Frost, Lady ..... " "  
 Frost, Mr. J. M. .... Dee Lodge "  
 Frost, Mrs. .... " "  
 Frost, Mr. T. Gibbons ..... 2 Richmond place  
 Frost, Mrs. .... " "  
  
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 Gardner, Miss ..... " " "

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Garnett, Mrs. ....	The Rectory, Christleton
Gibson, Mr. J. M. ....	Buckley, <i>via</i> Chester
Gibson, Miss ....	5 Crane street
Gibson, Miss Ada ....	Crane street
Gibson, Mr. John ....	South View, Eaton road
Gilbert, Mr. Leonard, J.P. ....	Egerton villa, Liverpool road
Gilbert, Mr. Egerton ....	132 Overleigh road, Handbridge
Gilbert, Mrs. ....	" " "
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Giles, Mr. E. S. ....	63 Watergate row
Giles, Mrs. ....	" " "
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Golder, Mr. S. ....	41 Liverpool road
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Goodhart, Mrs. E. S. ....	96 Watergate flags
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Gray, Miss ....	4 Lorne street
Greenhouse, Mr. Chas. ....	1 Eversley park
Gregg, Mr. W. ....	2 Watergate square
Griffith, Mr. G. R. ....	30 Hough Green
Griffith, Mrs. ....	" " "
Griffith, Miss ....	" " "
Griffith, Miss O. Collenette ....	" " "
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Griffiths, Mrs. ....	" " "
Griffiths, Mr. T. W. ....	5 Hough green
Griffiths, Miss. ....	42 Watergate street
Griffiths, Mr. John ....	" " "
*Griffiths, Rev. T. Turner, M.A. ....	" " "
Gunton Miss ....	Rimmersfield "
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Hall, Mrs. ....	" " "
Hall, Miss Cecile ....	" " "
Hall, Miss Josephine. ....	" " "
Hall, Major-Gen. Julian H. ....	Government House
Hall, Mrs. ....	" " "
Hall, Mr. M. J. ....	" " "
Hamel, Miss ....	9 Abbey street
Hamilton, Mr. A., M.R.C.S. ....	16 White Friars
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Harrison, Mrs. ....	" " "
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Henderson, Miss M. H. ....	" " "
Henderson, Mr. Wm. ....	11 Union walk

Henshaw, Mr. T. ....	The Hollies, Liverpool road
Henshaw, Mr. T. A. ....	" "
Henshaw, Miss Edith E. ....	" "
Henshaw, Miss Florence M. ....	" "
Heppel, Miss ....	8 Hough Green
Heppel, Miss M. E. ....	" "
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Hewitt, Mr. David L. ....	Abbey House, Northgate street
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Higgins, Miss Millie ....	" "
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Hignett, Mrs. ....	14 Hough green
Hignett, Mr. A. H. ....	" "
Hignett, Mrs. T. H. ....	18 Hough green
Hincks, Mr. H. T. ....	61 Northgate street
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Hobday, Mr. E. ....	" "
Hobday, Mr. Jas. ....	22 The Groves
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Hodges, Mr. T. R. ....	" "
Hodges, Miss A. G. ....	" "
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Holland, Miss S. L. ....	" "
Holland, Miss A. M. ....	" "
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Holmes, Mr. Melville ....	3 Bold square
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Hope, Miss M. P. ....	" "
Hopkins, Mrs. ....	32 Queen street
Hopkins, Mr. T., M.B. ....	60 Watergate street
Hopley, Mr. J. C. ....	Chemist, Northgate street
Horabin, Mr. T. ....	16 Newgate street
Horton, Mr. H. R. ....	74 Brook street
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Hostage, Mrs. ....	" "
Hostage, Miss ....	22 Eaton road
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Howson, Miss. ....	" "
Howson, Miss M. ....	" "
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Jackson, Mr. Roger	26	Hough green
Jackson, Miss		" "
Jackson, Miss	57	Parkgate road
Jackson, Miss Thirza		" "
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Jayne, Mr. Roland G.		" "
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*Jeffs, Mr. O. W.		Park terrace, 92 Westbourne st., Liverpool
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Johnson, Major	9	Upper Northgate street
Johnson, Mrs.	11	Bertram road, Sefton park, Liverpool
Johnson, Mr.		St. Paul's School, Boughton
*Johnson, Mr. M., L.D.S.I.	9	York villas, Lorne street
Johnson, Mr. Thomas C.		West view, Garden lane
Jones, Miss Maggie	1	King's buildings
Jones, Miss		The Northgate
Jones, Mrs. Edward	1	Paradise row
Joyce, Mrs.		Ferndale, Liverpool road
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Kelham, Mr. Augustus	3	Eversley park, Liverpool road
Kelsall, Miss H.		Abbot's court, Liverpool road
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Kenyon, Mrs.		" "
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King, Mrs.		" "
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Kynnersley, Mr. E. M. Sneyd		Boughton lodge
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*Lamb, Capt.		Chester Castle
Lamont, Mr. A.	3	City Walls (West)
Lamont, Mr. A., Junr.		" "
Lamont, Miss		" "
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Latham, Mr. J. S.		Green bank, Liverpool road
Lawley, Capt. The Hon. A.		Eccleston Hill
Lawley, The Hon. Mrs.		" "
*Lawrence, Dr. A.		The Asylum, Chester
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Lipsham, Mr. F.	17	Pepper street
Littler, Miss	17	Eaton road
Lloyd, His Honour Sir Horatio		Stanley place
Lloyd, Lady		" "
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Lloyd, Miss M. E.	13	Chichester street
Lloyd, Miss C.	56	Princess street
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Lockwood, Mrs.	7	Queen's park
Lomax, Mr. F. T.	12	Bold terrace
Long, Mrs.	2	Lumley road

- \*Longbottom, Mr. F. W. .... 14 Eaton road  
 Longbottom, Mrs. .... " "  
 Lowe, Mr. G. B. .... 25 Hough green  
 Lowe, Miss C. H. .... " "  
 \*Lowe, Mr. W. F., A.R.S.M., } 9 Hough green  
     F.I.C., F.C.S. }  
 Lowe, Mrs. .... " "  
 Lowe, Mr. Jas. F., B.A. .... Dee banks  
 Lowe, Mrs. .... " "  
 \*Lucas, Mr. A. W., F.G.S. .... 7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Luxmoore, Mr. E. B., J.P., F.G.S. .... Bryn-Asaph, St. Asaph  
 Lyon, Rev. J., M.A. .... 2 Nicholas street  
  
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 Marsden, Miss .... 6 Grosvenor park road  
 Mason, Mr. F. B. .... 3 Lorne street (North)  
 Massie, Admiral .... 3 Stanley place  
 Mawdsley, Miss M. M. .... 8 Eaton road  
 Mawdsley, Miss J. G. .... " "  
 Mawdsley, Mr. W. H. .... " "  
 McAllum, Mr. S. G., M.B. C.M. .... The Asylum, Chester  
 McEwen, Mrs. .... 7 Alexandra terrace, Hoole road  
 McKindlay, Mr. Andrew .... Aldford, Chester  
 Meakin, Mrs. .... Richmond bank, Boughton  
 \*Mills, Mr. John .... 4 Eastgate row  
 Mills, Mrs. .... " "  
 \*Miln, Mr. G. P. .... 27 Chichester street  
 Miln, Mrs. .... " "  
 Milne, Mr. .... 8 Ash grove, Wrexham road  
 Minshull, Mr. E. .... The Northgate  
 Minshull, Miss .... " "  
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 Mitchell, Mrs. .... " "  
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 Montgomery, Mr. John K., B.Sc. .... Christ's College, Cambridge  
 Moreton, Mr. J. E., F.R.C.S. .... Tarvin  
 Moreton, Mrs. .... " "  
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 \*Morris, The Rev. Canon, D.D. .... Eaton, Chester  
 Morris, Miss Margaret .... 13 Stanley place  
 Morris, Mr. R. W. .... Cathedral Studio, St. Werburgh street  
 Mossford, Mr. John .... The Rhigi, Tattenhall  
 Musgrave, Mrs. .... 45 White friars  
 Musgrave, Miss Constance .... " "  
  
 \*Newstead, Mr. R., F.E.S. .... The Grosvenor Museum  
 Nicholls, Mr. W. A. M. .... Eaton road, Chester  
 Nicholls, Mr. G. F. .... 12 Chichester street  
 Nicholson, Mr. J. M. .... Little Sutton, Chester  
 Noyes, Mr. H. J. .... 1 Cheyney villas

*Okell, Mr. E. W.	22 Northgate street
Okell, Mr. P. H.	1 Northgate street
*Okell, Miss M. H.	6 Curzon park
Okell, Miss A.	" "
Oldfield, Mrs.	68 Northgate street
Oldfield, Miss	Bryn Clwyd, St. Asaph
Oldmeadow, Mr. Geo. E.	65 Parkgate road
Orton, Mr. R. O., J.P.	Tattenhall, Chester
Owen, Mr. Hugh L.	Ashton House, New Crane street
Parkes, Mr. A.	Bridge street row
Parkes, Mrs.	" "
Parry, Mr. Gilbert	Farndon Hall, Chester
*Parry, Mr. T. S., M.B.	10 Upper Northgate street
Parry, Mr. Morris	21 Victoria road
Partington, Mr. John T.	Denbigh villas, Cheyney road
Payne, Miss	4 Abbey green
Payne, Miss A.	" "
Phillips, Mr. C. B.	77 Parkgate road
Phillipson, Mr. J.	12 Liverpool road
Phillipson, Mr. H. G.	" "
Pitchford, Mr. Enock	Cambrian crescent
Plim, Miss	2 White friars
Podmore, Miss	3 Eastern pathway, Queen's park
Porter, Mrs.	Crowthorne, Childer Thornton, Chester
Potts, Miss A. M.	Heron Bridge
Potts, Miss C. L.	" "
Powell, Mr. E.	Eastgate row
Powell, Mr. T. J.	14 Newgate street
Preston, Mr. F. M.	Abbot's grange, Liverpool road
*Price, Mr. Walmsley	26 Watergate row
Price, Miss	53 Rutland terrace, Parkgate road
Prichard, Mr. Geo.	9 The Groves
Prichard, Miss	" "
Pritchard, Mr. W.	17 Watergate street row
Pye, Mr. Jas.	Clovelly House, Eversley park
Pye, Mrs.	" "
Pye, Mr. Fred	" "
*Pye, Mr. T. E.	Gasworks, Shrewsbury
Raingill, Mrs.	Windsor Lodge, Mickle Trafford
Rayner, Miss	Ash grove, Wrexham road
Ray, Miss	3 Eastern pathway, Queen's park
Reade, Mr. Albert William	11 Lorne street
Reade, Mr. Walter	" "
Richardson, Mr. A.	Bridge street row
Roberts, Miss	Bank Cottage, Neston
Roberts, Miss M.	8 Nicholas street
Roberts, Dr J., J.P.	8 Abbey square
Roberts, Mr. Hugh	Crypt Chambers
Roberts, Miss Johnson	7 Lumley road, Liverpool road
Roberts, Miss	Richmond Bank, Boughton
Roberts, Miss	Overleigh, Hough green
Roberts, Mr. B. C., J.P.	Kingston House
Roberts, Mr. R. H.	7 St. Anne street
Rogers, Mr. James	The Cross
Rogers, Mr. Jno.	Watergate Flags
Rogers, Mr. W.	" "

Rogerson, Mr. G. H. ....	4 Nicholas street
Royle, Mr. T. R. P. ....	Hough Green House
Royle, Mrs. ....	" "
Ryan, Mr. Thos. ....	Castle Hill House, Flint
Sandbach, Mr. S. H., J.P. ....	Cherry Hill, Malpas
*Sandford, Mrs. ....	Queen's School
Sant, Mr. T. ....	Frodsham
Schröder, Mr. W. G. ....	Queen's Park Farm
Scott, Mr. John ....	19 Chichester street
Scott, Rev. S. Cooper, M.A. ....	St. John's Rectory
Segar, Mr. F., L.D.S.E. ....	White Friars House
*Sharp, Mr. W. E. ....	The Woodlands, Ledsham
Sharpe, Mr. F. W. ....	7 Abbey square
Sharpe, Mr. Alan ....	" "
*Shepherd, Mr. T., F.R.M.S. ....	Kingsley Lodge, Liverpool road
Shepherd, Mrs. ....	" " "
Shepherd, Miss. ....	" " "
Shepherd, Miss Emma ....	" " "
Shepherd, Miss F. ....	" " "
Shepherd, Miss Rose ....	" " "
Shepherd, Mr. W. F. J. ....	" " "
Shepherd, Mr. J. D. ....	National Provincial Bank, Wrexham
Shepherd, Mr. J. C. B. ....	1 Allington terrace, Hoole road
*Shone, Mr. W., F.G.S. ....	Upton park
Shone, Mrs. ....	" "
Shone, Mr. Wm., Junr. ....	" "
Shrubsole, Mr. Alfred ....	Town Hall square
Shufflebotham, Mr. John H. ....	Millcross House, Taunton
*Siddall, Mr. J. D. ....	19 Eaton road
Siddall, Mrs. ....	" "
Siddall, Miss Annie ....	" "
Siddall Miss G. M. ....	" "
Simms, Mr. A. J. ....	Christ Church Schools, Black Diamond street
Sitwell, Mrs. ....	2 Eaton road
Small, Mr. A. H. ....	The Leadworks
Small, Mr. Jas. P. ....	3 Deva terrace
Smith, Mr. T. ....	Blacon Point, Chester
Smith, Mrs. S. ....	16 Nicholas street
Smith, Miss H. ....	3 Chichester street
Smith, Mr. John. ....	Market square
Smith, Mrs. T. J. ....	Moor House, Flookersbrook
Smith, Mr. E. Heber, A.R.C.S. ....	54 Cambrian Crescent
Smith, Mrs. Heber ....	" "
Smyth, Miss Lyle ....	Barrowmore Hall, near Chester
*Spencer, Mr. J. H. ....	36 Bridge street
Spooner, Miss. ....	Norfolk Lodge, London road, Reigate, Surrey
Spinks, Mr. Robt. C. ....	98 St. Anne street
Stanyer, Mr. William ....	30 Newgate street
Stevenson, Mr. A. ....	South view, Christleton road
Stewart, Mrs. ....	13 Stanley place
Stewart, Rev. D. A., M.A. ....	24 Bouverie street
*Stolterfoth, Dr. H., M.A., J.P. ....	1 Grey friars
Stolterfoth, Mrs. ....	" "
Stolterfoth, Miss. ....	" "





- Yeadon, Mr. Thos. .... 28 St. Anne street  
Young, Rev. Hamilton, M.A. .... Pulford Hall, Wrexham



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\*.\* As a New Edition of the Catalogue of Books in the Society's Library will shortly be published, the usual list of recent additions has been omitted from this Report.

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## THE LIBRARY

IS OPEN TO THE MEMBERS DAILY FROM 10 A.M TO 5 P.M.

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NOTICE.—*Copies of the SOCIETY'S PROCEEDINGS (No. 1, price 6d., Nos. 2 and 3, price 2/6 each), may be obtained from MR. JOHN MILLS, Eastgate Row; MR. G. R. GRIFFITH, Grosvenor Street; or the CURATOR, Grosvenor Museum.*

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**Part No. 4 of the Society's Proceedings will shortly be published. Price 2/6. The Committee will be glad if Members who have not already done so will enter their names as Subscribers at once.**

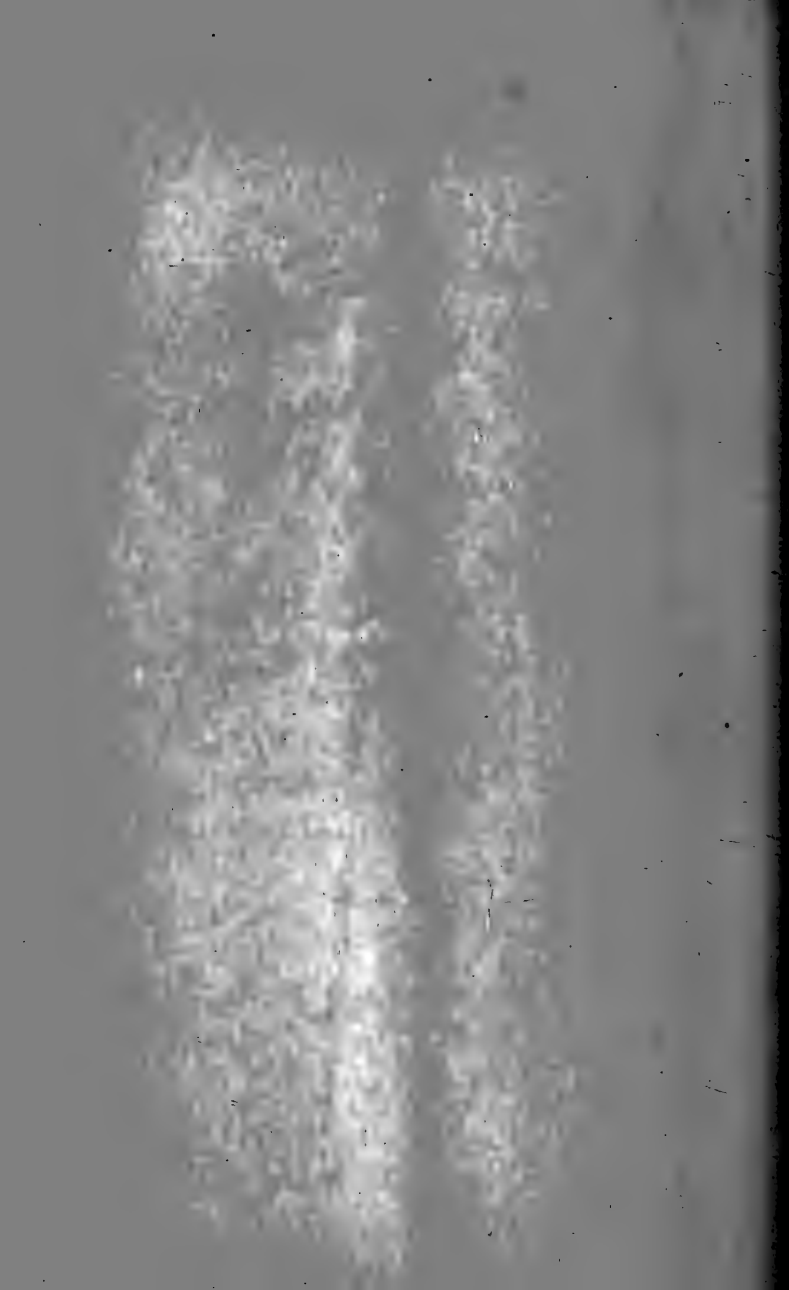
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CHESTER

Society of Natural Science & Literature.

(Founded by Charles Kingsley, 1871.)

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TWENTY-THIRD  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS,

FOR THE YEAR 1893-94.



CHESTER:

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCXCV.



CHESTER SOCIETY  
OF  
NATURAL SCIENCE AND LITERATURE

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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TWENTY-THIRD  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS FOR 1893-94,

AND THE  
LIST OF MEMBERS FOR 1894-95,

ALSO  
A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION, &c.



CHESTER:

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## Curator and Assistant-Librarian:

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# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its objects be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above named Officers, who shall be *Ex-Officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in a Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section, may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business: Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting which will be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.



IN presenting the Twenty-third Annual Report the Committee is pleased to be able to congratulate the Members on the prosperity and success which have attended the Society's work during the past year. In membership, in financial position, in public favour, and in efficiency and usefulness, the Committee believe that the Society has made very decided progress.

We have on our list six hundred and twenty-nine Ordinary Members, twenty-three Honorary Members, and fifteen Corresponding Members.

During the past year we regret to have to record the death of two of our Honorary Members—THE REV. H. H. HIGGINS and PROF. TYNDALL. THE REV. H. H. HIGGINS was well known to many of our members. He established a most successful "Field Club" in Liverpool, and made the Museum in that city one that its citizens may justly be proud of. He took a deep interest in our Society, and in its early days rendered us valuable assistance. In one of his lectures, entitled "Is Nature Cruel?" he sounded the key-note of his own character, which was one that could not fail to draw to him all those who really cared to look lovingly into the marvels of nature, and from thence to nature's God. The lives of such men make little show in this world, but leave an ever-widening influence for good, as their memory is cherished and respected. PROF. TYNDALL'S death was inexpressibly sad. Though he was not personally known to many of our Society, his loss was a national one, for his life's work had been given to the advancement of Science.

In reference to the Museum, it is gratifying to find that the additional building is nearing completion, and there is every prospect that the collections made by our Society will

shortly be seen to far greater advantage, while the rooms devoted to Natural History specimens will ever prove a source of general interest, showing as it does the admirable work of our zealous Curator.

It is a matter of regret that there is a considerable deficit in the Building Fund Account, and the Committee would gratefully receive any contributions from the Members, who would thus help to relieve the Hon. Treasurer and his Committee from the great responsibility of debt.

Another number of the "Proceedings" of the Society has just been issued, which contains many valuable papers of scientific interest. It is hoped that the Members will show their appreciation of the publication by taking copies, and recommending the work to the notice of their friends.

The record of the work of the Society will appear under the following heads:—

EXCURSIONS		CONVERSAZIONE
FIELD MEETINGS		SECTIONAL MEETINGS
GENERAL MEETINGS		

The following Excursions were made, which were all well attended:—

1893.	
May 30th.....	Bidston.
July 5th.....	Bodnant.
„ 27th.....	Tremeirchion.
Sept. 6th.....	Storeton Woods and Quarries.

The Evening Field Meetings were as follows:—

1893.	
May 25th.....	Lache Lane.
„ 31st.....	Waverton.
July 12th.....	Eaton Gardens.
„ 19th.....	Delamere Forest.
Aug. 8th.....	The Dale Gardens.
„ 17th.....	Ince.
„ 24th.....	Helsby Hills.

The Annual Conversazione took place on October 19th, in the Town Hall, under the Presidency of W. M. DOBIE, ESQ., M.D.,



and by kind permission of the Mayor (MR. ALDERMAN CHARLES BROWN.) As on many former occasions we can again congratulate our Members on the success of the *Conversazione*. The Kingsley Memorial Medal was presented by HER GRACE THE DUCHESS OF WESTMINSTER to MR. E. J. BAILLIE, F.L.S., who has done so much in furthering the study of Botany and Horticulture in the neighbourhood of Chester. Besides the usual show of Microscopes, there was a room entirely devoted to Telescopes and Astronomical apparatus, which were of considerable interest, as showing some of the instruments now available for use in Chester.

The following General Meetings have been held during the past winter :—

1893.

Oct. 26—"The Physical Features of Sinai and Palestine," by PROFESSOR HULL, LL.D., F.R.S.

Nov. 30—"The Glacial Period and its Vegetation," by W. CARRUTHERS, ESQ., F.R.S.

1894.

Jan. 25—"British Trap-door Spiders," by FRED. ENOCK, ESQ., F.L.S.

Feb. 22—"Revelation in relation to Modern Research," by THE VERY REV. THE DEAN OF CHESTER, D.D.

Mar. 29—"Storms and Rain, and how they are foretold," by F. GASTER, ESQ., F.R. Met. Soc.

Apr. 26—Annual Meeting of the Society; and a Lecture on "Scavenging and Disposal of House Refuse," by EDWARD ROBINS, ESQ., F.S.I., A.M.I.C.E.

In addition to the General Meetings, we have had two Special Meetings, the proceeds of which were devoted to the Natural History Museum :—

1894.

Jan. 10—"The Scottish Alps," by W. LAMOND HOWIE, ESQ., F.C.S.

Feb. 26—"Life in Tripoli," by GEORGE E. THOMPSON, ESQ.

Both these Lectures were well illustrated by lantern slides, and the thanks of the Society are due to the gentlemen named for their valuable assistance.

The different Sections into which the Society is now divided, will, at the request of the Committee, present their own Reports of the work done during the past twelve months.

Under the direction and guidance of our President (DR. DOBIE) the Society has had a very prosperous year. The Meetings have in all cases been well attended, and this may in a great measure be due to the introduction of short series of connected Lectures, on certain special subjects.

Your Committee have met twelve times during the past year, and they trust that the work carried out, and the general arrangements have proved satisfactory to the Members.

HENRY STOLTERFOTH, M.A., M.D.,

*Hon. Scientific Secretary.*

APRIL 26TH, 1894.



## CURATOR'S REPORT.

THE additions to the Natural History Museum are as follows:—

	Species Presented,	Species Purchased.	Total of Species.	Total of Specimens.
Botany .. .. .	700	..	700	700
<i>Coleoptera</i> (Beetles) .. .. .	45	..	45	115
<i>Orthoptera</i> (Grasshoppers, &c.) .. .. .	3	..	3	3
<i>Neuroptera</i> (Dragon Flies) .. .. .	10	..	10	37
<i>Hymenoptera</i> (Bees, &c.) .. .. .	12	..	12	21
<i>Lepidoptera</i> (Moths) .. .. .	54	..	54	149
<i>Homoptera</i> (Scale Insects) .. .. .	13	..	13	18
<i>Hemiptera</i> (Plant Bugs) .. .. .	1	..	1	2
<i>Diptera</i> (Two-winged Flies) .. .. .	4	..	4	18
<i>Crustacea</i> (Shrimps, &c.) .. .. .	25	..	25	50
<i>Mollusca</i> (Shells) .. .. .	40	..	40	98
<i>Aracnida</i> (Spiders) .. .. .	7	..	7	9
<i>Pisces</i> (Fish) .. .. .	2	..	2	5
<i>Aves</i> (Birds) .. .. .	91	5	96	198
Nests and Eggs .. .. .	6	..	6	23
<i>Mammalia</i> (Animals) .. .. .	10	1	11	11
Reptiles .. .. .	2	..	2	5
Galls and Gall Insects .. .. .	17	..	17	70
Geology .. .. .	4	..	4	4
Miscellaneous .. .. .	..	..	..	29
TOTAL .. .. .	1,046	6	1,052	1,565

This makes the grand total of nearly 11,000 specimens added to the Society's Collection during the seven years I have held my present position as Curator. Compared with the larger Provincial Museums these figures may not appear very striking, but in a Museum like our own, which only accepts material of a strictly local character, we may justly consider our collections in a very flourishing condition, so far, at any rate, as the specimens are concerned. The want of exhibitive space, however, has long been felt, and it is hoped that before another year has passed, the collections will be safely housed in the new wing, where ample space will be provided for them. It is advisable I should call the attention of the Members to

the fact that not less than five new wall cases must be provided for the Birds, Mammals, &c.; also tables for the life-history groups of Birds. Fortunately there are plenty of \*"table cases," and up to the present time we have been able to spare six of these for the Archæological Society's exhibits.

During the year special efforts have been made to make the collection of Birds as complete as possible, and we are under considerable obligations to MR. R. J. SMITH (Aldford) for his valued help in this direction, as also to DR. W. H. DOBIE and MR. R. NEWSTEAD, SENR. Others have also assisted in procuring specimens, as will be seen on referring to the detailed list.

The preservation of some 200 birds has been no light task, and it has practically prevented me from adding specimens to the Entomological Collections. Maps, showing the whole distribution of each species, are being prepared by MR. A. O. WALKER and myself. Several new life-history groups of Birds have been completed, and others are in preparation. I have made two collecting expeditions during the year, for the purpose of obtaining birds; the expenses connected therewith have been defrayed by DR. W. H. DOBIE and MR. THOS. SHEPHEARD. A Little Bittern (*Ardetta minuta*, Lin.) and a Black Tern (*Hydrochelidon nigra*, Lin.) have been purchased by subscription by several of the Members; these, together with a splendid specimen of the White-tailed Sea Eagle (*Haliaetus albicilla*, Lin.), presented by HIS GRACE THE DUKE OF WESTMINSTER, K.G., are worthy of special attention.

The collection of Fishes has been removed from the Natural History Museum, and is stored in the basement, where it will have to remain until the new wing is completed, and new cases are provided.

The President (DR. DOBIE) has presented a set of models of *Foraminifera*, illustrating some of the various genera found in the Dee; these cannot now be displayed for want of space.

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\* In all there are 59 of these cases.

There have been 144 additions to the Society's Library since February, 1893. The want of funds, however, has prevented the publication of the MS. Catalogue which has been prepared; but it is hoped it may be published in the course of the present year.

I beg most respectfully, on behalf of the Committee, to thank all those who have so kindly contributed to the collections, for the loans of books, and other valued assistance, and ask for their continued support.

## LIST OF DONORS AND ADDITIONS.

### BOTANY.

Sir Richard Wilbraham .. .. .	Species.	Specimens.
	900	— 900

### COLEOPTERA (Beetles.)

The Curator .. .. .	17	— 47
Mr. H. B. Dutton .. .. .	2	— 20
Mr. T. R. Hodges .. .. .	1	— 1
Mr. J. D. Siddall .. .. .	1	— 10
Mr. A. O. Walker .. .. .	24	— 28

### ORTHOPTERA (Grasshoppers, &c.)

The Curator .. .. .	1	— 1
Master Garnett .. .. .	1	— 1
Mr. Shaw .. .. .	1	— 1

### NEUROPTERA (Dragon Flies.)

Mr. J. Arkle .. .. .	2	— 24
The Curator .. .. .	5	— 10
Mr. Edwards .. .. .	1	— 1
Mr. R. J. Smith .. .. .	1	— 1
Mr. A. O. Walker .. .. .	1	— 1

### HYMENOPTERA (Bees, &c.)

Mr. J. Arkle .. .. .	1	— 1
Mrs. Brock .. .. .	2	— 2
Mrs. Brassey .. .. .	1	— 1
Mr. W. Bithell .. .. .	1	— 1
The Curator .. .. .	2	— 11
Mr. John Newton .. .. .	1	— 1
Mr. R. J. Smith .. .. .	1	— 1
Mr. J. C. Ward .. .. .	1	— 1
Mr. A. O. Walker .. .. .	2	— 2

## LEPIDOPTERA (Moths, &amp;c.)

Mr. J. Arkle	..	..	..	..	37	—	114
Master A. Pitcairn Campbell	..	..	..	..	1	—	1
The Curator	..	..	..	..	2	—	20
Mr. Clough	..	..	..	..	1	—	1
Mr. F. R. G. Duckworth	..	..	..	..	1	—	1
Mr. R. J. Smith	..	..	..	..	9	—	9
Mr. A. O. Walker	..	..	..	..	1	—	1
Mr. Welsby	..	..	..	..	1	—	1
Mr. Wynne	..	..	..	..	1	—	1

## HOMOPTERA (Froghoppers, &amp;c.)

The Curator	..	..	..	..	1	—	3
Mr. J. L. Denson	..	..	..	..	1	—	1
Mr. A. T. Gillanders	..	..	..	..	3	—	3
Mr. T. R. Hodges	..	..	..	..	2	—	6
Mr. A. O. Walker	..	..	..	..	5	—	5

## HEMIPTERA.

Mr. T. R. Hodges	..	..	..	..	1	—	2
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## DIPTERA (Two-winged Flies.)

Mr. E. J. Baillie	..	..	..	..	2	—	2
The Curator	..	..	..	..	1	—	12
Mr. R. J. Smith	..	..	..	..	1	—	4

## CRUSTACEA.

Mr. A. O. Walker	..	..	..	..	25	—	50
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## CONCHOLOGY (Shells.)

Mr. A. Nicholson	..	..	..	..	30	—	74
Mr. Charles Oldham	..	..	..	..	7	—	18
Mr. A. O. Walker	..	..	..	..	2	—	2
Mr. B. Tomlin	..	..	..	..	1	—	4

## ARACHNIDA (Spiders.)

The Curator	..	..	..	..	1	—	8
Mr. Gardner	..	..	..	..	1	—	3
Mr. Greening	..	..	..	..	2	—	6
Mr. A. O. Walker	..	..	..	..	2	—	2

## PISCES (Fish.)

Mr. W. Brown	..	..	..	..	1	—	3
Mr. T. R. Hodges	..	..	..	..	1	—	2

## AVES (Birds.)

Rev. J. F. Buckler	..	..	..	..	1	—	1
The Curator	..	..	..	..	15	—	97
Mr. A. Cookson	..	..	..	..	1	—	1
Mr. Davis	..	..	..	..	1	—	1
Dr. H. Dobie and Mr. A. O. Walker	..	..	..	..	4	—	10
Dr. W. H. Dobie	..	..	..	..	3	—	4
Mr. J. L. Denson	..	..	..	..	1	—	1
Mr. J. P. Earwaker	..	..	..	..	2	—	2
Master H. E. B. Earwaker	..	..	..	..	1	—	1
Mr. Garnett	..	..	..	..	1	—	1
Mr. Garland	..	..	..	..	1	—	1
Mr. Harris	..	..	..	..	1	—	1
Mr. T. H. Hignett	..	..	..	..	1	—	1
Mr. Hutchinson	..	..	..	..	1	—	1
Mr. E. Myddleton	..	..	..	..	3	—	3
Messrs. Newstead, Junr., Shepherd, and Smith	..	..	..	..	4	—	7
Mr. R. Newstead, Senr.	..	..	..	..	12	—	15
Mr. Pownall	..	..	..	..	1	—	2
Master Wm. Shone	..	..	..	..	1	—	1
Mr. R. J. Smith	..	..	..	..	31	—	42
Mr. W. Lester Smith	..	..	..	..	1	—	1
Mr. A. O. Walker	..	..	..	..	1	—	1
Mr. Wells	..	..	..	..	1	—	1
His Grace The Duke of Westminster, K.G...	..	..	..	..	1	—	1
Mr. C. F. Wynne	..	..	..	..	1	—	1

## NESTS AND EGGS.

The Curator	..	..	..	..	2	—	15
Dr. H. Dobie	..	..	..	..	1	—	3
Sir Piers Mostyn	..	..	..	..	1	—	2
Mr. Thos. Shepherd	..	..	..	..	1	—	1
Mr. R. J. Smith	..	..	..	..	1	—	2

## MAMMALIA (Animals.)

Mr. F. Ball	..	..	..	..	1	—	1
Mr. J. L. Denson	..	..	..	..	1	—	1
Lord Arthur Grosvenor	..	..	..	..	1	—	1
Mr. H. T. Hincks	..	..	..	..	1	—	1
Mr. Charles Oldham	..	..	..	..	2	—	2
Mr. R. J. Smith	..	..	..	..	3	—	3
Mr. A. O. Walker	..	..	..	..	1	—	1
Purchased	..	..	..	..	1	—	1

## REPTILES.

The Curator	..	..	..	..	1	—	4
Mr. Alfred Johnson	..	..	..	..	1	—	1

## GALLS.

The Curator	..	..	..	..	14	—	62
Mr. W. Lester Smith	..	..	..	..	3	—	8

## GEOLOGY.

Mr. F. F. Brown	..	..	..	..	1	—	1
Mr. J. Large	..	..	..	..	1	—	1
Mr. A. W. Lucas	..	..	..	..	1	—	1
Mr. Youd	..	..	..	..	1	—	1

## MISCELLANEOUS.

The President (Dr. Dobie)	..	Set of Models of <i>Foraminifera</i>					
Mr. G. P. Miln	..	..	..	..	1	—	1
Mr. Thos. Shepherd	..	Curator's expenses—collecting expedition to Aldford; glass jar and leather for covering stoppers.					
Mr. R. J. Smith	..	..	..	..		—	5
Dr. Stolterfoth	..	..	..	..	Photographs		
Mr. A. O. Walker	..	..	..	..	1	—	1

R. NEWSTEAD, F.E.S.,

CURATOR.

*April 26th, 1894.*



## SECTIONAL REPORTS.

## BOTANICAL.

ONE Meeting only of the Section has taken place during the past Session. The subject chosen for consideration at this Meeting was "The *genus Acacia*, with special reference to the species sold in Chester Market."

MR. J. D. SIDDALL, Chairman of the Section, contributed the Paper, which was admirably illustrated by a fine collection of living and herbarium specimens contributed by MR. G. P. MILN, Secretary of the Section; and also by a series of dissections of the leaf and flower structures made by the Students attending MR. SIDDALL'S Botany Class. The attendance of members was good, and all seemed much interested.

But although only this one Thursday Evening was available for a Meeting of the Botanical Section proper, the affiliated Paxton Society has held regular Saturday Evening Meetings throughout the Session, at which Papers, as follows, have been given to larger audiences than in any previous year:—

1894.

Jan. 6—"The importance in Nature of the lower forms of Animal and Vegetable Life," *illustrated by Examples and Diagrams*, by MR. J. D. SIDDALL.

„ 20—"Present aspects of Horticultural Education," by MR. T. REDINGTON

Feb. 3—"The Culture of Vegetables for Exhibition," by MR. JOHN WYNNE.

„ 17—"Form and Colour in Nature," by MR. E. J. BAILLIE, F.L.S.

Mar. 3—"Horticulture—some of its aspects," by MR. F. N. BARNES, Eaton.

„ 17—"Recent experiments in the formation of Mushroom Beds," by MR. JOHN TAYLOR.

Apr. 7—"Notes on Spring Bedding," by MR. JOHN WEAVER.

„ 21—Exhibition of Spring Flowers by Members.

The Fruit and Chrysanthemum Exhibition organised by the Paxton Society in the Town Hall last November, was a splendid success in every way. There is, therefore, no reason to think that the interests of this Section have suffered by the new arrangements necessitated by the two Serial Courses of Lectures in Geology and Astronomy. On the contrary, the success of these courses has attracted better audiences to all the Museum Meetings, Botanical and otherwise.

G. P. MILN,

*Secretary*

APRIL 26TH, 1894.

## GEOLOGICAL.

At the beginning of the Society the subject of Geology was one of the most prominent, but for the past year or two it has evoked but languid interest; and this is perhaps to be accounted for by the removal of many who were formerly Members of this Section, and from others having taken up more congenial pursuits. This was specially seen in the small attendance at the Sectional Meetings. It was, therefore, thought desirable to make a new departure this year; and, while retaining the usual reading of more advanced papers, as occasion required, to give a course of Elementary Lectures as devoid of technical terms as possible, to which the general public should be invited free of charge.

The response to this invitation was exceedingly gratifying to the Committee and the Officers of the Section, for large audiences were present on each evening, when the following Course of Lectures was given:—

- (1) "How the World was made, and what it is made of."
- (2) "The Age of the World, as shown by its Crust, and the Fossils it contains."
- (3) "How Slates, Sandstones, and Limestones have been formed."
- (4) "What Coal is, and how it was produced."
- (5) "The state of the interior of the World, as shown by Volcanoes, Geysers, Hot Springs, &c."
- (6) "The ways in which the Surface of the World has been changed."

It is hoped that by this course of Lectures an intelligent interest in the science of Geology will have been awakened, especially in the minds of the young people who attended, and that many may be induced to become members of the Society.

The Committee desire to give every possible facility to those who wish to continue the study, and trust that a new generation of Geologists will arise which will carry on the work which has been so well begun by their predecessors. They specially call attention to their collection of Fossils in the Museum, illustrative of the Geology of this district; to the Classes which will be formed provided a sufficient number of Students apply for instruction; and to the Sectional Meetings, at which interesting papers are read, such as that recently given by the Chairman on "Post-Glacial Man in Britain."

ALFRED W. LUCAS,

*Secretary.*

APRIL 26TH, 1894.

## NATURAL PHILOSOPHY.

DURING the Session that has just closed, one Paper only was read in this Section, but this was of especial merit, being an account by DR. P. SCHIDROWITZ of the Synthesis and the Properties and Uses of Modern Drugs.

The compounds specially dwelt upon were the following: *Antipyrin*, *Antifibrin*, *Phenacetin*, *Sulphonal*, and *Saccharin*.

The Lecture was well illustrated both with numerous specimens and with experiments.

W. F. LOWE,  
*Secretary.*

APRIL 26TH, 1894.

## PHOTOGRAPHIC.

THE Photographic Section has held five Meetings during the Session:—

1893.

Nov. 16—"Yorkshire Scenery": A set of Lantern Slides by MEMBERS OF THE LEEDS PHOTOGRAPHIC SOCIETY.

Dec. 11—"Harmonising Harsh Negatives," with illustrated examples; A Paper by MR. J. MCINTOSH.

1894.

Jan. 26—"Matt Print-Out Paper": A Demonstration by MR. HOWSON, Britannia Works Co., Ilford.

Mar. 2—"Correct Exposure, and how to insure it": A Paper by MR. G. F. WYNNE.

April 2—"Annual Meeting of Members and Exhibition of Lantern Slides by Members of the Section.

## STATEMENT OF ACCOUNT.

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
To Balance from 1892 ..	1	13	1	By Photographic Papers	0 17 4
„ Subscriptions .. ..	1	5	0	Balance .. ..	2 0 9
	<u>£2</u>	<u>18</u>	<u>1</u>		<u>£2</u>
					<u>18</u>
					<u>1</u>

J. H. SPENCER,  
*Secretary.*

APRIL 26TH, 1894.

## ZOOLOGICAL.

THERE has been only one Meeting (on Nov. 2nd, 1893), when the Curator, MR. R. NEWSTEAD, F.E.S., read a Paper on "Hornets, Bees, and Wasps." The Paper was illustrated by diagrams and specimens, and was much appreciated.

T. SHEPHEARD, F.R.M.S.,

APRIL 26TH, 1894

*Secretary.*

## LITERATURE.

THERE has been only one Meeting (on January 11th), when the Secretary, REV. A. H. FISH, read a Paper on "The Odyssey of Homer." The paper was illustrated by photographs of Greek Sculptures and Vase-paintings representing incidents of the poem, shown by the lantern.

A. H. FISH,

*Secretary.*

APRIL 26TH, 1894.

## ASTRONOMICAL.

Two Conversational Meetings for workers were held on December 14th and January 19th respectively, when matters of passing interest were discussed.

At the Annual Conversazione held in the Town Hall on October 19th, 1893, one of the Committee Rooms was set apart for the exhibition of Telescopes, Astronomical Instruments, &c.

A Course of Free Popular Lectures on Astronomy was delivered on alternate Thursday Evenings during the latter part of the Session. These Lectures were beautifully illustrated by lantern views, drawings, and diagrams, and proved most interesting to Members of the Society and to the general public.

The series consisted of the following Lectures:—

1894.

Feb. 1—"The Telescope," by MR. ALBERT TAYLOR, F.R.A.S. Sir Howard Grubb's Patent Telescope was shown and described.

„ 15—"The Private History of the Sun," by REV. J. C. MITCHELL, B D., F R.A.S.

Mar. 1—"The Moon," by DR. DOBIE, J.P., F.R.A.S.

„ 15—"Sunlit Worlds," by MR. F. W. LONGBOTTOM.

Apr. 5—"Stars and Star-clusters," by MR. SAMUEL OKELL, F.R.A.S.

„ 19—"The Fixed Stars (The Constellations)": specially addressed to young people, by MR. W. VINCENT.

In conclusion, we feel sure that everyone interested in the subject will be glad to learn, that arrangements are being made by the Committee to obtain SIR ROBERT BALL to deliver an Astronomical Lecture at the opening of the next Winter Session.

HERBERT DOBIE,

*Secretary.*

APRIL 26TH, 1894.



The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1894.

Dr.	£ s. d.	£ s. d.	Cr.	£ s. d.
By Subscriptions—				
1 for 1890-1 @ 5/-	..	0 5 0	To Balance due to Treasurer ..	27 12 9½
6 „ 1891-2 @ 5/-	..	1 10 0	„ Museum Management Committee ..	60 0 0
27 „ 1892-3 @ 5/-	..	6 15 0	„ Library .. ..	1 17 0
583 „ 1893-4 @ 5/-	..	145 15 0	„ Natural History Museum ..	14 13 8
			„ Printing, Stationery, Advertising, &c. ..	53 19 0
			„ Postages .. ..	18 13 4
		154 5 0	„ Subscriptions—	
„ Donation from Paxton Society ..	..	3 3 0	National Footpaths Preservation Society ..	£0 10 6
„ Donations from several Members in aid of the Natural History Museum ..	..	2 3 6	Paleontographical Society ..	1 1 0
„ Balance on Excursion Account ..	..	2 2 7	Entomological Society ..	1 1 0
„ „ from Mr. Howie's Lecture ..	..	7 18 0		
„ „ „ Mr. Thompson's Lecture ..	..	3 9 6		
			„ Alfred Newstead, One Year's Wages ..	6 0 0
			„ Curator's Expenses to London ..	1 10 0
			„ Balance Evening Meetings' Account ..	2 11 1
			„ Case for Exhibiting Meteorological Charts ..	2 5 0
				£191 14 4½

MAY 25TH, 1894—Examined and found correct, and that a balance of £18 12s. 9½d. is due to the Treasurer.

BERESFORD ADAMS, }  
C. R. ENOCK, }  
HON. AUDITORS.

JOHN MILLS, HON. TREASURER.

# “KINGSLEY MEMORIAL” FUND.

## STATEMENT OF ACCOUNT for the Year ended 30th April, 1894.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Balance .. .. .	..	..	20 17 0	By Grant to Alfred Newstead .. ..	..	..	2 0 0
„ Dividends from the Great Western Railway ..	..	..	13 16 11	„ Chester Newspapers, for Advertizing ..	..	..	1 7 6
„ Bankers' Interest .. .. .	..	..	0 7 6	„ Mr. Griffith, for Printing Copies of “Prizes for 1893” .. ..	..	..	0 4 6
				„ Mr. Siddall, for Engraving Medal ..	..	..	0 3 6
				„ Mr. Pritchard, for Lettering Boards ..	..	..	0 5 6
				Balance .. ..	..	..	31 0 5
							<u>£35 1 5</u>
To Balance brought down (in Bank) ..	£31	0	5				

EDMUND J. BAILLIE,  
HON. TREASURER,  
17TH APRIL, 1894.

18TH APRIL, 1894—*Examined and found correct,*

W. VINCENT,  
HON. AUDITOR.

## PAST PRESIDENTS.

- 1871 to 1875—REV. CHARLES KINGSLEY, CANON OF CHESTER  
*(Founder of the Society.)*  
 1875 „ 1891—PROF. T. MCKENNY HUGHES, F.R.S.  
 1891-2 ALFRED O. WALKER, ESQ., J.P., F.L.S.  
 1892-3 HIS GRACE THE DUKE OF WESTMINSTER, K.G.  
 1893-4 W. M. DOBIE, ESQ., M.D., J.P., F.R.A.S.

## KINGSLEY MEMORIAL MEDAL,

ESTABLISHED 1877,

“For having contributed materially to the promotion and advancement of some branch or department of Natural Science.”—Vide Trust Deed.

- 1877—MRS. CHAS. KINGSLEY (In Memoriam.)  
 1878—JOHN PRICE, M.A.  
 1879—SIR PHILIP DE MALPAS GREY-EGERTON, BART, F.R.S.  
 1880—PROF. T. MCKENNY HUGHES, F.R.S.  
 1881—D. MACKINTOSH, F.G.S.  
 1882—ISAAC BYERLEY, M.R.C.S., F.L.S.  
 1883—GEORGE W. SHRUBSOLE, F.G.S.  
 1884—ALFRED OSTEN WALKER, F.L.S.  
 1885—JOHN DAVIES SIDDALL.  
 1886—HENRY STOLTERFOTH, M.A., M.D.  
 1887—WILLIAM SHONE, F.G.S.  
 1888—THOMAS SHEPHEARD, F.R.M.S.  
 1889—THOS. RUDDY.  
 1890—REV. CHAS. WOLLEY-DOD, M.A.  
 1891—ROBERT NEWSTEAD, F.E.S.  
 1892—OSMUND W. JEFFS.  
 1893—EDMUND J. BAILLIE, F.L.S.

## KINGSLEY MEMORIAL PRIZES,

ESTABLISHED 1877,

“For the reward, encouragement, and the advancement of the pursuit and study of Natural Science.”—Vide Trust Deed.

- |        |                     |      |                                                                                         |
|--------|---------------------|------|-----------------------------------------------------------------------------------------|
| 1878 { | HELEN SMITH.....    | £5 } | Herbarium of Flowering Plants.                                                          |
|        | EDWIN W. OKELL....  | 5 }  |                                                                                         |
| 1879—  | GEORGE SHRUBSOLE..  | 5    | Carboniferous Fossils.                                                                  |
| 1881—  | E. HOPKINS.....     | 5    | Cryptogamous Plants.                                                                    |
| 1882—  | GEORGE SHRUBSOLE..  | 10   | Corals of the Mountain Limestone.                                                       |
| 1886—  | ROBERT NEWSTEAD ..  | 10   | Hymenoptera.                                                                            |
| 1887—  | JOHN LYON DENSON..  | 5    | Notes of Observations illustrating the<br>Natural Science of the Society's<br>District. |
| 1888—  | LILIAN E. TOMLIN .. | 5    | Coleoptera.                                                                             |
| 1889 { | EDITH C. TOMLIN.... | 5 }  | Diptera and Hymenoptera (Terebrantia).                                                  |
|        | W. E. SHARP .....   | 5 }  | Coleoptera.                                                                             |
| 1890—  | ALFRED J. NIXON.... | 10   | Land and Fresh-Water Shells.                                                            |
| 1892—  | W. E. SHARP.....    | 10   | Coleoptera.                                                                             |



## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition:—

1894.

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prize, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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*\* \* All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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NOTE.—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors can obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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 The Prizes will be awarded at the Annual Conversazione.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

Academia Nacional de Ciencias de la Republica Argentina,  
Cordoba.

Barrow Naturalists' Field Club.

Brighton and Sussex Natural History Society.

Bristol Naturalists' Society.

British Association (Corresponding Society's Committee.)

British Museum (Natural History), Cromwell Road,  
London, S.W.

Burnley Literary and Scientific Club.

Cardiff Naturalists' Society.

Cassel Society of Natural Science.

Dudley and Midland Geological and Scientific Society and  
Field Club.

Epping Forest and County of Essex Naturalists' Field Club.

Glasgow Natural History Society.

Hertfordshire Natural History Society and Field Club.

Huddersfield Naturalists' Society.

La Société d'Histoire Naturelle de St. Wladimir á Kiew, Russie.

Leeds Naturalists' Club.

Liverpool Geological Society.

Liverpool Geological Association.

Liverpool Literary and Philosophical Society.

Liverpool Microscopical Society.

Liverpool Naturalists' Field Club.

Liverpool Science Students' Association.

Manchester Field Naturalists' Society.

Manchester Geological Society.

Manchester Microscopical Society.

Menai Society of Natural Science.

Northampton Natural History and Field Club.

North Staffordshire Naturalists' Field Club and Archæological  
Society.

Norwich Science Gossip Club.

Nottingham Naturalists' Society.

Patent Office Library, 25, Southampton Bridge, Chancery  
Lane, London, W.C.

Postal Microscopical Society.

Quekett Microscopical Society.

Rochdale Field Naturalists' Society.

Smithsonian Institution, Washington, D.C.

United States Geological Survey.

Vatican Observatory, Rome (F. Francis Denza, Director.)

Vienna Natural History Museum.

Wigan Literary and Scientific Society.

Yorkshire Naturalists' Union, Leeds.

## HONORARY MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

---

Ball, Sir Robert S., F.R.S.	Observatory, Cambridge
Barrett, Chas. G., Esq., F.E.S.	39, Linden Grove, Nunhead, London, S.E.
*Carruthers, W., Esq., F.R.S.	The British Museum, South Kensington, London, S.W.
*Dawkins, Prof. W. Boyd, F.R.S.	Woodhurst, Wilmslow rd., Fallowfield, Manchester
De Tabley, The Right Hon. Lord	62, Elm Park road, Chelsea, London, S.W.
*Grindon, Leo H., Esq.	20, Cecil Street, Greenheys, Manchester
*Hicks, H., Esq., F.R.S.	Hendon Grove, Hendon, London, N.W.
Hooker, Sir J. D., K.C.S.I., F.R.S.	The Camp, Sunningdale, Ascot
*Hughes, Prof. T. McKenny, F.R.S.	Trinity College, Cambridge.
*Hull, Prof., F.R.S.	20, Arundel Gardens, London, W.
Huxley, Prof. T. H., F.R.S.	Hoddestea, Eastbourne
*Judd, Prof. J. W., F.R.S.	Royal College of Science, South Kensington, London, S.W.
*Lubbock, Sir John, Bart., M.P., F.R.S.	Down, Farnborough, Kent
*Morton, G. H., Esq., F.G.S.	209, Edge Lane, Liverpool, E.
Norman, Rev. Canon, F.R.S.	Burnmoor Rectory, Fence Houses, Durham
Oxford, The Lord Bishop of.	The Palace, Cuddesdon, Oxford
*Rae, E., Esq., F.S.A.	Court Lodge, Birkenhead
Renard, The Abbé	Curator of The Royal Museum of Natural History, Brussels
Roscoe, Sir Henry E., M.P., F.R.S.	10, Bramham Gardens, London, S.W.
*Rudler, F. W., Esq., F.G.S.	Museum of Practical Geology, Jermy Street, London, S.W.
Sanderson, Dr. Burden, F.R.S.	64, Banbury Road, Oxford
Villanova-y-Piera	Professor of Geology in the University of Madrid
*Vize, Rev. J. E., M.A.	Forden Vicarage, Welshpool


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## CORRESPONDING MEMBERS.

Askew, Mr. Jas. H.	Bidston Lighthouse
Griffith, Mr. J. E., F.L.S., F.R.A.S.	Vronheulog, Upper Bangor, N.W.
Joachim, Mr. Geo.	Dunedin, Otago, New Zealand
Leather, Mr. F. S.	New Zealand
Nicholson, Mr. A. C., F.G.S.	Salop House, Oswestry
Nixon, Mr. A. J.	Birdham School, Chichester
*Reade, Mr. Oswald A.	Royal Naval Hospital, Gt. Yarmouth
*Rowston, Mr. R.	Kingsley, Alton, Hants
*Ruddy, Mr. Thos.	Palé, Corwen
Russell, Dr.	Colwyn Bay
Tomlin, Mr. J. R. le B., B.A.	Thorpe Villa, Liverpool Road
Walker, Mr. Fred	Heywood, Tenby
Wynne, Mrs. Lloyd	Coed Coch, Abergele
*Wilkins, Mr. T. S.	Uttoxeter
Williams, Mr. G. J., F.G.S.	Higher Grade School, Blaenau Festiniog

## NOTICE.



 THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN MILLS, Chemist, Eastgate Row.

 To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary, according to Rule 8.



## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

Acton, Mrs. ....	Grove road, Wrexham
Adams, Mr. Beresford.....	Shirley House, Liverpool road
Adams, Mr. Geo. F. ....	Ashbourne, Victoria road
Ainsworth, Miss F. ....	4 Nicholas street
Allen, Mr. Percy K. ....	22 Lorne street
Alphonsus, Very Rev. F., D.D. (O.S.F.)..	The Monastery, Grosvenor street
Appleton, Mr. John.....	Bouverie street
Archer, Mr. W. E. ....	5 Lightfoot street
*Arkle, Mr. J.....	Diocesan Schools, George street
Arnold, Miss Maggie ....	Chichester street
Armagnac, Madame.....	32 Crane street
Avery, Mr. John ....	4 Bouverie street
Ayrton, Miss.....	Abbot's Rock, 33 Liverpool road
Bailey, Mr. H. Grant ....	Crypt Chambers
*Baillie, Mr. E. J., F.L.S. ....	Woodbine, Upton
Baillie, Mrs. ....	" "
*Bairstow, Mr. J., F.C.S.....	32 Sealand road
Baker, Mr. W. H. ....	18 City Walls (S.)
Baker, Miss ....	2 Grey Friars
*Ballard, Mr. E. G., A.R.S.M. ..	Newton, Chester
Ballard, Mrs. ....	" "
Barbour, Mr. Geo., J.P. ....	Bolesworth Castle, Tattenhall
Barbour, Mrs. ....	" "
Barker, Mr. A. ....	6 Abbey street
Barnes, Rev. F., B.A.....	Hope villa, Raymond street
Barrow, Miss.....	The Infirmary
Bassett, Miss C. E. ....	68 Northgate street

Baugh, Mr. A. C. .... Newton Grange, Hoole  
Baxter, Mr. Geo. .... Foregate street  
\*Bedford, Rev. J. L., M.A., F.L.S. 10 Abbey square  
Bedford, Mrs. .... " "  
Best, Rev. J. D., M.A. .... Diocesan Training College  
Bevan, Mr. William. .... 65 Phillip street, Hoole  
Bidlake, Rev. Walter .... Crewe  
Billing, Miss Gertrude .... Woodbank, Christleton road  
Birch, Mr. H. J. .... Corville, Liverpool road  
Birch, Miss. .... 18 Upper Northgate street  
Bird, Rev. W. R. .... 66 Bouverie street  
Bithell, Mr. W. .... Messrs. Beckett & Co., Eastgate row  
Blayney, Mr. A. .... 2 City Walls, W.  
Blayney, Mrs. .... " "  
\*Blogg, Rev. H. B., M.A. .... Frodsham Vicarage, Cheshire  
Blomfield, Admiral .... { @ Messrs. Woodhead & Co., 44 Charing  
Cross, London  
Blower, Mr. T. B. .... 6 The Groves  
Blower, Mr. W. .... 4 Williams' terrace, Hoole  
Bolland, Mr. Frank .... 23 Hough green  
Bonnalie, Mr. G. S., L.D.S., R.C.S. .... 4 Abbey square  
\*Bonnalie, Mr. Fredk. J., L.D.S., R.C.S.E. .... 4 Abbey square  
Bowers, Mr. H. R., J.P. .... Abbot's Lodge, Liverpool road  
Bowers, Mrs. .... " "  
Bowles, Mr. T. S. .... 21 Raymond street  
Box, Mr. Henry .... 46 Frodsham street  
Boyson, Miss Annie H. .... { Grove House, Larkhall Rise, Clapham,  
London, S.W.  
Bradbury, Mr. R. P. .... 10 Lumley road  
Brassey, Miss. .... Rose Hill, Bowdon, Cheshire  
Brassey, Mr. Herbert .... Curzon park  
Brassey, Mrs. .... " "  
Brewer, Miss E. .... 15 Paradise row  
Brewer, Miss Anne .... " "  
\*Broadbent, Mrs. .... Bache cottage  
Brown, Mr. C., J.P. .... The Folly, Flookersbrook  
Brown, Miss L. E. .... " "  
Brown, Mr. W., J.P. .... 18 Curzon park  
\*Brown, Mr. F. F., M.A. .... Eastgate row  
Brown, Miss Constance L. .... 59 Upper Northgate street  
Brown, Miss Marion. .... " "  
Brown, Mrs. Samuel. .... 50 Bridge street row (W.)  
Brownlow, Col., C.B. .... Boughton Hall  
\*Buckler, Rev. J. F., M.A. .... Bidston Rectory, near Birkenhead  
Buckley, Mr. Wm. Ireland, F.R.G.S. .... The Academy, Winsford, Cheshire  
Buisson, Mademoiselle Marié .... 11 Cambrian view  
Bullin, Mr. F., J.P., L.D.S., R.C.S. .... 20 Nicholas street  
Bullin, Mrs. .... " "  
Bullin, Miss E. .... " "  
Burgess, Dr. R. Evans .... Hoole  
Burrell, Mr. T. G. .... 119 Foregate street  
Burrows, Mr. R. .... Railway Inn, Brook street  
Butcher, Mr. Jas. .... 14 Union walk  
Campbell, Mrs. Pitcairn .... Vicar's Cross, Chester  
Campbell, Miss Pitcairn .... " "  
Campbell, Master A. D. Pitcairn. .... " "  
Carr, Mrs. .... Richmond lodge, Boughton

- Chalton, Mr. T. W.....7 Ash grove  
 Chalton, Mrs. .... " " "  
 Chapman, Mr. F. W. ....42 Tarvin road  
 \*Chester, The Right Rev. The Lord Bishop of, ... The Palace, Dee Side  
 Clare, Mr. Horatio ..... St. John's Schools, Vicar's lane  
 Clarke, Mr. Geo. E..... Barton villa, Curzon park  
 Clemence, Mr. S. ....2 Chichester street  
 Clough, Miss ..... Ashton House, New Crane street  
 Clough, Mr. G. F. ....2 Hough green  
 Clough, Mrs. .... " " "  
 Cockrill, Mr. C. P. .... Chester road, Saltney  
 Coe, Mr. D. ....26, Lightfoot street, Bishopfields  
 Coe, Mr. Henry J. ....4 Bold terrace  
 Collinge, Mr. James ..... Kinnerton Lodge, Chester  
 Combe, Mrs. .... Glan Aber, Saltney  
 Combe, Miss ..... " " "  
 Connah, Mr. Jas. .... The Laboratory, Somerset House, London, W.C.  
 \*Connor, Mr. Rochfort, F.L.S. .. Linwood, Hunter's Quay, N.B.  
 Cooke, Mr. J. H. .... Pantton House, Hoole  
 \*Cooper, Capt., R.A. .... Dorchester House, Boughton  
 Coppack, Mr. Chas. .... Gladwyn, Liverpool road  
 Coppack, Miss ..... " " "  
 Coppack, Miss Nellie ..... " " "  
 Cordery, Miss C. ....79 Boughton  
 \*Cowap, Mr. C. R. ....29 Granville road, Cambrian view  
 Crum, Mr. W. G., J.P. .... Thornliebank, Glasgow  
 Cummings, Miss ..... King's Buildings  
 Curjel, Mr. H. W. .... The College, Chester.  
  
 \*Darby, Very Rev. J. L., D.D. ... The Deanery  
 Davies, Miss Henrietta .....69 Boughton  
 Davies, Mr. E. Henry .....19 Francis street  
 Davies, Mr. Joseph ..... " " "  
 Davies, Mr. John ..... Parr's Banking Co., Chester  
 Davies, Mr. J. P. ....75 Crane street  
 Davies, Rev. Clement ..... The Vicarage, Rhosesmor, Holywell  
 Davies, Miss ..... St. Michael's Schools  
 Davies, Mr. A. H. .... The Eastgate  
 Davies, Mr. T. E., B.A. ....18 Sealand road  
 Day, Mr. John ..... Bryntirion, Parkgate road  
 Denson, Mr. W. ....21 Upper Northgate street  
 Denson, Mrs. .... " " "  
 Denson, Miss Adelaide ..... " " "  
 Denson, Mr. J. Lyon ..... " " "  
 Dickson, Mr. Geo. A., J.P. .... Springfield, Flookersbrook  
 Dickson, Mrs. .... " " "  
 Dickson, Miss Lavinia ..... " " "  
 Dickson, Mr. Jas. .... Upton House, Chester  
 Dickson, Miss ..... " " "  
 Dickson, Mr. S. J. R. .... Mayfield House, Hoole  
 Dickson, Mrs. W. Alfred ..... Newton villa  
 Dickson, Mr. Guy Tritton ..... " " "  
 Ditchburn, Mr. G. Hartley .....17 Henshall street  
 \*Dobie, Dr. W. M., J.P., F.R.A.S. ... Northgate House  
 Dobie, Miss ..... " " "  
 \*Dobie, Mr. W. H., M.B. ....22 Upper Northgate street  
 Dobie, Dr. Herbert ..... Northgate House

Dobie, Mr Douglas .....	Northgate House
Dobie, Miss Mildred .....	" "
Dod, Rev. C. Wolley, M.A., J.P. ....	Edge Hall, Malpas
Dod, Miss Wolley .....	" "
Dodd, Mr. W. ....	143, St. Anne street
Dodd, Mr. John .....	18 Cambrian crescent
Dodds, Miss M. Evelyn .....	Thornleigh, Hough green
Duckworth, Mr. Henry .....	Christ Church Vicarage
Duckworth, Mr. Winfryd Lawrence H., B.A. ....	Christ Church Vicarage
Duff, Dr. ....	5 Abbey street
Dutton, Mr. George, J.P. ....	Curzon House
Dutton, Mrs. ....	" "
Dutton, Mrs. G. W. ....	15 Curzon park
Dutton, Mr. H. B. ....	Freshfield, 27 Curzon park
Dutton, Mrs. ....	" "
*Dutton, Mr. F. V. ....	University College of North Wales, Bangor
Dutton, Miss M. ....	8 Hough green
Dye, Mr. Alfred B. ....	72 Bouverie street
Edwards, Mr. J. ....	74 Foregate street
Edwardes, Miss Kate .....	36 Sealand road
Eggers, Miss .....	4 Hough green
Elliott, Dr. John, B.S., B.Sc. ....	White Friars Lodge
Elliott, Miss .....	" "
Ellis, Mr. R. J. ....	13 Brook street
Enock, Mr. C. R. ....	15 Hough green
Enock, Mrs. ....	" "
Enock, Miss .....	" "
Evans-Lloyd, Col., J.P. ....	Stanley House
*Evans, Mr. F. ....	The Eastgate
Evans, Miss .....	The Elms, Hawarden
Evans, Rev. T. J., M.A. ....	Hargrave Rectory, near Chester
Evans, Miss J. E. ....	The Limes, 5 Lumley road
Ewing, Mr. C. A. ....	3 Brookside villas, Flookersbrook
Farmer, Mr. Richard .....	36 Liverpool road
Farrimond, Mr. F. T. ....	Sunnyside, Boughton
Ffoulkes, His Honor Judge Wynne, M.A. ....	Old Northgate House
Ffoulkes, Mr. Thomas B., Junr. ....	8 Burlington road, Ipswich
Ffoulkes, Mr. Geo. B. ....	15 Chichester street
Finchett, Mr. W. H. ....	Savings' Bank House
Firth, Mr. N. C. ....	125 Foregate street
Fish, Mrs. ....	Arnold House, Parkgate road
*Fish, Rev. A. H., B.A., B.Sc. ....	" "
FitzPatrick, The Lady Olivia ....	Warren Hall, near Chester
Fleet, Mr. H. ....	76 Lower Bridge street
*Fletcher, Mr. P. H. ....	Woodbrae, Curzon park
Fletcher, Miss .....	" "
Fluitt, Miss. ....	1 Hough green
Footner, Mr. H. ....	4 King's buildings
Footner, Mrs. ....	" "
Fordham, Miss .....	19 Raymond street
*Francis, Mr. F. E. ....	Kilmorey park, Hoole
Fraser, Mr. Jas. ....	Tarvin road
Frazier, Miss .....	King's buildings
Frost, Sir Thomas G., J.P. ....	Redcliff, Queen's park
Frost, Lady .....	" "
Frost, Mr. J. M. ....	Dee Lodge
Frost, Mrs. ....	" "
Frost, Mr. T. Gibbons .....	Richmond Hill
Frost, Mrs. ....	" "

Gardner, Mrs. W. A. ....	Redland House, Hough green
Gardner, Miss .....	" " "
Gardner, Mr. Stanley R. ....	" " "
Gardner, Mr. E. ....	80 Watergate street
Gardner, Mr. Jas. ....	Tattenhall, Chester
Garnett, Mr. W. ....	Bridge street row
Garnett, Mrs. ....	The Rectory, Christleton
Gibson, Mr. J. M. ....	Buckley, <i>via</i> Chester
Gibson, Miss .....	5 Crane street
Gibson, Miss Ada .....	33 Crane street
Gibson, Mr. John .....	South View, Eaton road
Gilbert, Mr. Leonard, J.P. ....	Egerton villa, Liverpool road
Gilbert, Mr. Egerton .....	132 Overleigh road, Handbridge
Gilbert, Mrs. ....	" " "
*Giles, Rev. W. T., M.A., F.R.G.S. ....	The Asylum, Chester "
Giles, Mr. E. S. ....	Sandon, Hoole road
Giles, Mrs. ....	" " "
Glascodyne, Miss .....	11 Cambrian view
Golder, Mr. S. ....	41 Liverpool road
Goodman, Mr. A. E. ....	Fern Bank, Filkin's lane
Goodhart, Mrs. E. S. ....	96 Watergate flags
*Granger, Mr. F. M., M.R.C.S., L.R.C.P. ....	18 Nicholas street
Grantham, Rev. H. ....	S. Mary's Rectory
Gray, Miss .....	4 Lorne street
Greenhouse, Mr. Chas. ....	1 Eversley park
Gregg, Mr. W. ....	2 Watergate square
Griffith, Mr. G. R. ....	30 Hough Green
Griffith, Mrs. ....	" " "
Griffith, Miss .....	" " "
Griffith, Miss O. Collette ....	" " "
Griffiths, Mr. Jno. ....	Hamilton street, Hoole
Griffiths, Mrs. ....	" " "
Griffiths, Miss .....	2 Holly Bank, Queen's park
Griffiths, Mr. John .....	" " "
*Griffiths, Rev. T. Turner, M.A. ....	" " "
Gunton Miss .....	Rimmersfield
Haddocks, Mr. C. R. ....	6 Ash grove
*Hall, Mr. J. H. A. ....	Montrose House, Hough green
Hall, Mrs .....	" " "
Hall, Miss Cecile .....	" " "
Hall, Miss Josephine .....	" " "
Hall, Major-Gen. Julian H. ....	Government House
Hall, Mrs .....	" " "
Hamel, Miss .....	Staunton House, near Coleford, Gloucester
Hamilton, Mr. A., M.R.C.S. ....	16 White friars
Hamilton, Mrs. ....	" " "
Hardy, Mr. J. E. ....	The Blue Coat School, The Northgate
Harnaman, Mr. J. M. ....	Alvanley, Warrington
Harrison, Miss .....	13 Chichester street
Harrison, Mr. N. ....	Highfield, Curzon park
Harrison, Mrs. ....	" " "
Haswell, Mr. G. H. ....	Queen's park
Haswell, Miss Florence E. ....	31 Parkgate road
Heblethwaite, Mr. John W. ....	Green Bank, Eaton road
Heeley, Mrs. W. J. ....	Lorne street
Henderson, Mr. J. E. ....	19 Pathway, Queen's park
Henderson, Miss M. H. ....	" " "



Henderson, Mr. Wm. ....	11 Union walk
Henshaw, Mr. T. ....	The Hollies, Liverpool road
Henshaw, Mr. T. A. ....	" "
Henshaw, Miss Edith E. ....	" "
Henshaw, Miss Florence M. ....	" "
Heppel, Miss ....	8 Hough green
Heppel, Miss M. E. ....	" "
Hewitt, Mr. David L. ....	Abbey House, Northgate street
Hickman, Mr. F. F. ....	8 Northgate street
Hickman, Miss ....	17 The Groves
Hicks, Capt. E. C. ....	St. Martin's-in-the-fields
Higgins, Miss Eva ....	The Manor, Overleigh
Higgins, Miss Millie ....	" "
Higgins, Mr. W. H. ....	St. Martin's-in-the-fields
Hignett, Mrs. ....	14 Hough green
Hignett, Mr. A. H. ....	" "
Hignett, Mrs. T. H. ....	18 Hough green
Hincks, Mr. H. T. ....	61 Northgate street
Hobday, Mr. J. ....	Alexandra villa, Liverpool road
Hobday, Mr. E. ....	" "
Hobday, Mr. Jas. ....	22 The Groves
*Hodges, Mr. W. ....	31 Hough green
Hodges, Mr. T. R. ....	" "
Hodges, Miss A. G. ....	" "
Hodkinson, Mr. E. ....	35 Pepper street
Holland, Miss A. E. ....	2 Eversley park
Holland, Miss S. L. ....	" "
Holland, Miss A. M. ....	" "
Holme, Rev. Canon, M.A. ....	Great Budworth, Northwich
Holmes, Mr. J. G. ....	Belmont, Curzon park
Hoole, Rev. W. Spooner, M.A. ....	Thornton Rectory, near Chester
Hope, Mr. J. G. ....	Sealand view, Canal street
Hope, Miss M. P. ....	" "
Hopkins, Mrs. ....	32 Queen street
Hopkins, Mr. T., M.B. ....	60 Watergate street
Hopley, Mr. J. H. ....	Chemist, Northgate street
Horabin, Mr. T. ....	16 Newgate street
Hostage, Mr. George B. ....	28 Eaton road
Hostage, Mrs. ....	" "
Hostage, Miss ....	22 Eaton road
Howson, Rev. J. F., M.A. ....	Egerton House, Upper Northgate street
Howson, Miss ....	" "
Howson, Miss M. ....	" "
Howson, Rev. G. J., M.A. ....	The Vicarage, Crewe
Hudson, Mrs. R. S. ....	Bache Hall, Chester
Hughes, Mrs. McKenny ....	18 Hills road, Cambridge
*Hughes, Mr. Thos. Cann, M.A. ....	Town Hall, Manchester
*Hughes, His Honour Judge, Q.C. ....	Uffington House, Dee hills
Hughes, Mrs. ....	" "
Hughes, Mr. John ....	47 Victoria street, Westminster, London
Hughson, Mr. A. ....	Crossloom villas, Mollington
Humberston, Miss ....	Newton Hall, Chester
Humphreys, Mr. E. Noel. ....	Grosvenor Chambers, 6 Newgate street
Hunter, Mr. Jas. ....	Maisonnette, Hough green
Hunter, Mr. C. P. ....	" "
Hutchings, Mr. J. H. ....	47 White friars . "
Jackson, Mr. Roger ....	26 Hough green
Jackson, Miss ....	" "

Jackson, Miss	57 Parkgate road
Jackson, Miss Alice	c/o Mr. W. A. M. Nicholls, 38 Eaton road
Jacob, Rev. Joseph, M.A.	Whitewell Rectory, Whitchurch (Salop)
Jayne, Mr. Ernest	The Palace, Dee side
Jayne, Mr. Roland G.	" "
*Jebb, Mr. G. R., C.E.	Fairyfield, Great Bar, Birmingham
*Jeffs, Mr. O. W.	Park terrace, 92 Westbourne st., Liverpool
Jephcott, Mr. Charles, B.A.	13 Lorne street (North)
Johnson, Major	9 Upper Northgate street
Johnson, Mrs.	11 Bertram road, Sefton park, Liverpool
Johnson, Mr.	St. Paul's School, Boughton
*Johnson, Mr. M., L.D.S.I.	9 York villas, Lorne street
Johnson Mr. Thomas C.	Clayton house, Duke street
Jones, Miss Maggie	1 King's buildings
Jones, Miss	The Northgate
Jones, Mrs. Edward	1 Paradise row
Jones, Mr. F. M.	5 Lorne street (North)
Joyce, Mrs.	Ferndale, Liverpool road
Kelham, Mr. Augustus	3 Eversley park, Liverpool road
Kelsall, Miss H.	Abbot's court, Liverpool road
Kemp, Mr. George	59 Bridge street
Kenyon, Mr. G. A., M B.	Flookersbrook
Kenyon, Mrs.	" "
King, Dr. H. W.	26 Nicholas street
King, Mrs.	" "
Kingsley, Miss	10 Walton place, Hans place, London, S.W.
Kinsey, Mr. T. E. Morris	Westminster buildings
Knowles, Mr. E. R.	Grosvenor street
Kynnersley, Mr. E. M. Sneyd	Boughton lodge
Lacy, Mrs.	Moore Holme, Neston
Lamont, Mr. A.	3 City Walls (West)
Lamont, Mr. A., Junr.	" "
Lamont, Miss	" "
Lanceley, Mr. R. H.	Victoria road
Latham, Mr. J. S.	Green bank, Liverpool road
Lawley, Capt. The Hon. A.	Eccleston hill
Lawley, The Hon. Mrs.	" "
*Lawrence, Dr. A.	The Asylum, Chester
Leighton, Mr. A. G.	Eaton terrace, Louise street
Lewis, Rev. J. S., M.A.	Guilsfield Vicarage, Welshpool
Lewis, Mr. A.	Deanery cottage, Abbey street
Lipsham, Mr. F.	33 Pepper street
Littler, Miss	17 Eaton road
Lloyd, His Honour Sir Horatio	Stanley place
Lloyd, Lady	" "
Lloyd, Mrs. E.	Abbot's mount, Liverpool road
Lloyd, Miss M. E.	13 Chichester street
Lloyd, Miss E.	56 Princess street
*Lockwood, Mr. T. M., F.R.I.B.A.	80 Foregate street
Lockwood, Mrs.	7 Queen's park
Lomax, Mr. F. T.	12 Bold terrace
Long, Mrs	2 Lumley road
*Longbottom, Mr. F. W.	Haslemere, Queen's park
Longbottom, Mrs.	" "
Lowe, Mr. G. B.	25 Hough green
Lowe, Miss C. H.	" "

- \*Lowe, Mr. W. F., A.R.S.M., } 9 Hough green  
F.I.C., F.C.S.
- Lowe, Mrs. .... " "
- Lowe, Mr. Jas. F., B.A. .... Dee banks "
- Lowe, Mrs. .... " "
- \*Lucas, Mr. A. W., F.G.S. .... 7 Victoria pathway, Queen's park
- Lund, Mrs. .... Thorpe villa, Liverpool road
- Lyon, Rev. J., M.A. .... 7 Grey friars
- \*Macdonald, Mr. G. E. .... 3 Abbey square
- Macdonald, Miss Eva .... " "
- Manley, Mr. H. .... Aston, Nantwich
- \*Manning, Mr. J. B. .... The Governor's House, H.M. Prison,  
Pentonville, London
- Manning, Miss Edith .... 18 Upper Northgate street
- Mann, Mr. A., M.B. .... Newgate street
- Mann, Mrs. .... " "
- Marchant, Mr. W. H. .... Whitefriars house
- Marsden, Miss .... 6 Grosvenor park road
- Mason, Mr. F. B. .... 67 Parkgate road
- Massie Admiral .... 3 Stanley place
- Maurice, Mr. Albert. .... 11 St. John street
- McEwen, Mrs. .... 7 Alexandra terrace, Hoole road
- McKindlay, Mr. Andrew .... Aldford, Chester
- McMichael, Mr. J. A., B.A. .... 24 Bouverie street
- McMichael, Mrs. .... " "
- Millington, Mr. C. .... Victoria House, Victoria road
- \*Mills, Mr. John. .... 4 Eastgate row
- Mills, Mrs. .... " "
- \*Miln, Mr. G. P. .... 27 Chichester street
- Miln, Mrs. .... " "
- Milne, Mr. S. .... 8 Ash grove, Wrexham road
- Minshull, Mr. E. .... The Northgate
- Minshull, Miss .... " "
- \*Mitchell, Rev. J. C., B.D., F.R.A.S. .. Rutland Cottage, Parkgate road
- Mitchell, Mrs. .... " "
- Montgomery, Rev. J. K. .... Abbot's villas, Liverpool road "
- Montgomery, Mr. John K., B.Sc. Christ's College, Cambridge
- Moreton, Mr. J. E., F.R.C.S. .. Tarvin
- Moreton, Mrs. .... " "
- Morgan, Rev. J. B. .... 2 Exton park
- Morphy, Mr. H. .... 1 South view, Eaton road
- \*Morris, The Rev. Canon, D.D. .. Eaton, Chester
- Morris, Miss Margaret. .... 13 Stanley place
- Mortimer, Lt. Col. W. H. .... 1 Waterloo road, Chester
- Mortimer, Mrs. .... " "
- Mossford, Mr. John .... The Rhigi, Tattenhall
- Mostyn, Sir Pyers W., Bart. .... Talacre, Holywell
- Muir, Brigade-Surgeon Lt.-Col. } Curzon park  
H. Skey, M.D., F.L.S.
- Musgrave, Mrs. .... 45 White friars
- Musgrave, Miss Constance .... " "
- \*Newstead, Mr. R., F.E.S. .... The Grosvenor Museum
- Nicholls, Mr. W. A. M. .... 38 Eaton road
- Nicholls, Mr. G. F. .... 12 Chichester street
- Nicholson, Mr. J. M. .... Little Sutton, Chester
- Noyes, Mr. H. J. .... 1 Cheyney villas

- \*Okell, Mr. E. W. .... 22 Northgate street  
 Okell, Mr. P. H. .... 1 Northgate street  
 \*Okell, Miss M. H. .... 6 Curzon park  
 Okell, Miss A. .... " "  
 Oldfield, Mrs. .... 68 Northgate street  
 Oldfield, Miss. .... Bryn Clwyd, St. Asaph  
 Oldmeadow, Mr. Geo. E. .... 65 Parkgate road  
 Orton, Mr. R. O., J.P. .... Tattenhall, Chester  
 Owen, Mr. Hugh L. .... Ashton House, New Crane street  
  
 Parkes, Mr. A. .... Bridge street row  
 Parkes, Mrs. .... " "  
 Parry, Mr. Gilbert. .... Farndon Hall, Chester  
 \*Parry, Mr. T. S., M.B. .... 10 Upper Northgate street  
 Parry, Mr. Morris .... 21 Victoria road  
 Partington, Mr. John T. .... Watford House, Victoria road  
 Payne, Miss .... 4 Abbey green  
 Payne, Miss A. .... " "  
 Phillipson, Mr. J. .... 23 Liverpool road  
 Phillipson, Mr. H. G. .... " "  
 Pitchford, Mr. Enock .... Cambrian crescent  
 Plim, Miss .... 2 White friars  
 Porter, Mrs. .... Crowthorne, Childer Thornton, Chester  
 Potts, Miss A. M. .... Heron Bridge  
 Potts, Miss C. L. .... " "  
 Powell, Mr. E. .... Eastgate row  
 Powell, Mr. T. J. .... 14 Newgate street  
 Preston, Mr. F. M. .... Abbot's grange, Liverpool road  
 \*Price, Mr. Walmsley .... 26 Watergate row  
 Price, Miss .... 53 Rutland terrace, Parkgate road  
 Prichard, Mr. Geo. .... 9 The Groves  
 Prichard, Miss .... " "  
 Pritchard, Mr. W. .... 17 Watergate row  
 Pye, Mr. Jas. .... Clovelly House, Eversley park  
 Pye, Mrs. .... " "  
 Pye, Mr. Fred. A. .... Saughall, Chester  
 \*Pye, Mr. T. E. .... Murdoch House, Shrewsbury  
  
 Raingill, Mrs. .... Windsor Lodge, Mickle Trafford  
 Rayner, Miss .... Ash grove, Wrexham road  
 Reade, Mr. Albert William .... 11 Lorne street  
 Reade, Mr. Walter .... " "  
 Richardson, Mr. A. .... Bridge street row  
 Roberts, Miss. .... Bank Cottage, Neston  
 Roberts, Miss M. .... 8 Nicholas street  
 Roberts, Dr., J.P. .... 8 Abbey square  
 Roberts, Mr. Hugh .... Crypt Chambers  
 Roberts, Miss Johnson .... 7 Lumley road, Liverpool road  
 Roberts, Miss .... Overleigh, Hough green  
 Roberts, Mr. B. C., J.P. .... Oakfield, Upton  
 Roberts, Mr. R. H. .... 7 St. Anne street  
 Roberts, Mr. W. F. .... Well House, Chester  
 Roberts, Mr. J. Sheriff .... 27 Hough green  
 Roberts, Mrs. .... " "  
 Rogers, Mr. James .... The Cross  
 Rogers, Mr. Jno. .... Watergate Flags  
 Rogers, Mr. W. .... " "

- Rogerson, Mr. G. H. .... 4 Nicholas street  
 Royle, Mrs. .... Hough Green House
- Sandbach, Mr. S. H., J.P. .... Cherry Hill, Malpas  
 \*Sandford, Mrs. .... Queen's School  
 Sant, Mr. T. .... Frodsham  
 \*Schidrowitz, Dr. P., Ph.D., F.C.S. .... 24 Chichester street  
 Schröder, Mr. W. G. .... 17 Eaton Road  
 Scott, Mr. John .... 19 Chichester street  
 Scott, Rev. S. Cooper, M.A. .... St. John's Rectory  
 Segar, Mr. F., L.D.S.E. .... White Friars House  
 \*Sharp, Mr. W. E. .... The Woodlands, Ledsham  
 Sharpe, Mr. F. W. .... 7 Abbey Square  
 Sharpe, Mr. Alan .... " " " "  
 \*Shepherd, Mr. T., F.R.M.S. .... Kingsley Lodge Liverpool Road  
 Shepherd, Mrs. .... " " " "  
 Shepherd, Miss .... " " " "  
 Shepherd, Miss Emma .... " " " "  
 Shepherd, Miss F. .... " " " "  
 Shepherd, Miss Rose .... " " " "  
 Shepherd, Mr. W. F. J. .... " " " "  
 Shepherd, Mr. J. D. .... National Provincial Bank, Wrexham  
 Shepherd, Mr. J. C. B. .... 1 Allington terrace, Hoole road  
 \*Shone, Mr. W., F.G.S. .... Upton Park  
 Shone, Mrs. .... " " " "  
 Shone, Mr. Wm., Junr. .... " " " "  
 Short, Miss .... Vicar's lane  
 Short, Miss M. .... " " " "  
 Shrubsole, Mr. Alfred .... Town Hall Square  
 Shufflebotham, Mr. John H. .... Kingston, Taunton  
 \*Siddall, Mr. J. D. .... 19 Eaton road  
 Siddall, Mrs. .... " " " "  
 Siddall, Miss Annie. .... " " " "  
 Siddall, Miss G. M. .... " " " "  
 Siddall, Mr. W. .... " " " "  
 Simms, Mr. A. J. .... Christ Church Schools, Black Diamond street  
 Simpson, Mr. C. .... Kilmorey park, Chester  
 Simpson, Mr. Ricardo .... Elsinore, Curzon park  
 Sitwell, Mrs. .... 2 Eaton road  
 Small, Mr. A. H. .... 9 Victoria pathway, Queen's park  
 Smith, Mr. T. .... Blacon Point, Chester  
 Smith, Mrs. S. .... 16 Nicholas street  
 Smith, Miss H. .... 3 Chichester street  
 Smith, Mr. John .... Market square  
 Smith, Mrs. T. J. .... Moor House, Flookersbrook  
 Smith, Miss .... 25 Chester street, Saltney  
 Smith, Mr. R. J. .... Aldford, Chester  
 Smyth, Miss Lyle .... Barrowmore Hall, near Chester  
 Sparling, Rev. W., M.A. .... Upton Vicarage, Chester  
 \*Spencer, Mr. J. H. .... 36 Bridge street  
 Spencer, Mr. S. .... 8 Eastern pathway  
 Stanyer, Mr. William .... 30 Newgate street  
 Stewart, Mrs. .... 13 Stanley place  
 \*Stolterfoth, Dr., M.A., J.P. .... 1 Grey friars  
 Stolterfoth, Mrs. .... " " " "  
 Stolterfoth, Miss .... " " " "



Ward, Miss .....	18 Eaton road
Watts, Mr. C. T. F. ....	Grosvenor Museum
Way, Mr. N. A. E. ....	1 Stanley street
Weaver, Mr. W. M. ....	Westminster buildings
Weaver, Mr. Thos. ....	Fern Cottage, Christleton
*Webster, Mr. G. Watmough, F.C.S..	5 Eversley park, Liverpool road
Webster, Mrs. ....	" "
Webster, Mr. Sirrell M. ....	" "
Webster, Miss Amy B. ....	52 Watergate street
Wells, Mr. E. ....	Eccleston, Chester
Wells, Mr. George J. J., F.I.C., F.C.S..	47 Parkgate road
White, Miss E. ....	13 Abbey street
Whiteley, Mr. F. ....	Helsby, Warrington
Wigg, Mr. Charles ....	Hoole bank, Chester
Wigg, Mr. Walter J. ....	Lea Hurst, Hoole road
Wilbraham, Miss E. ....	5 King's buildings
Wilbraham, Miss F. ....	" "
Wilcock, Mr. T. M. ....	26 Newgate street
Wilkinson, Mr. R. ....	49 Cambrian view
Williams, Mr. J. E. ....	Westminster buildings
Williams, Mr. John ....	Aber Cottage, Saltney
Williams, Mr. A. C. ....	15 Newgate street
Williams, Rev. J. R., M.A. ....	Pulford Rectory, Wrexham
Williams, Miss ....	Rutland Cottage, Tarvin road
Williams, Mr. R. J. ....	6 Eaton road
Williams, Miss Aldersey ....	96 Watergate flags
Williams, Rev. John ....	4 Cheyney road
Williams, Mr. G. C. ....	" "
Wiseman, Mr. C. ....	The Poplars, Dee banks
Wiseman, Mr. Henry ....	" "
Wood, Mr. R. Stewart ....	Eccleston, Chester
Wood, Miss ....	28 Queen street
Wood, Mr. H. ....	c/o Mrs. Williams, 2 Nicholas street
Wood, Mrs. A. ....	c/o Miss Tilston, 1 King's buildings
Woodfin, Miss ....	26 Lorne street
Woodhouse, Mr. John ....	7 Raymond street
Wrench, Miss. ....	Green lane, Tarvin road
Wright, Mr. A. J. ....	11 Bridge street row
Wright, Mrs. ....	" "
Wrigley, Mr. A. ....	The College, Chester
*Wynne, Mr. Geo. F. ....	Plas Gwyn, Minera, Wrexham
Wynne, Mr. J. H. ....	41A Tarvin road
Wynne, Mr. John. ....	Waverton, Chester
Yeadon, Mr. Thos. ....	28 St. Anne street



\* \* As a New Edition of the Catalogue of Books in the Society's Library will shortly be published, the usual list of recent additions has been omitted from this Report.

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## THE LIBRARY

IS OPEN TO THE MEMBERS DAILY FROM 10 A.M. TO 5 P.M.

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NOTICE.— *Copies of the SOCIETY'S PROCEEDINGS (Nos. 2 and 3, price 2/6 each), may be obtained from MR. JOHN MILLS, Eastgate Row; MR. G. R. GRIFFITH, Grosvenor Street; or the CURATOR, Grosvenor Museum.*

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**Part No. 4 of the Society's Proceedings has just been published. Price 5/-. The Committee will be glad if Members who have not already done so will obtain copies from the CURATOR at the Grosvenor Museum.**

*Presd*  
5 JUL 91



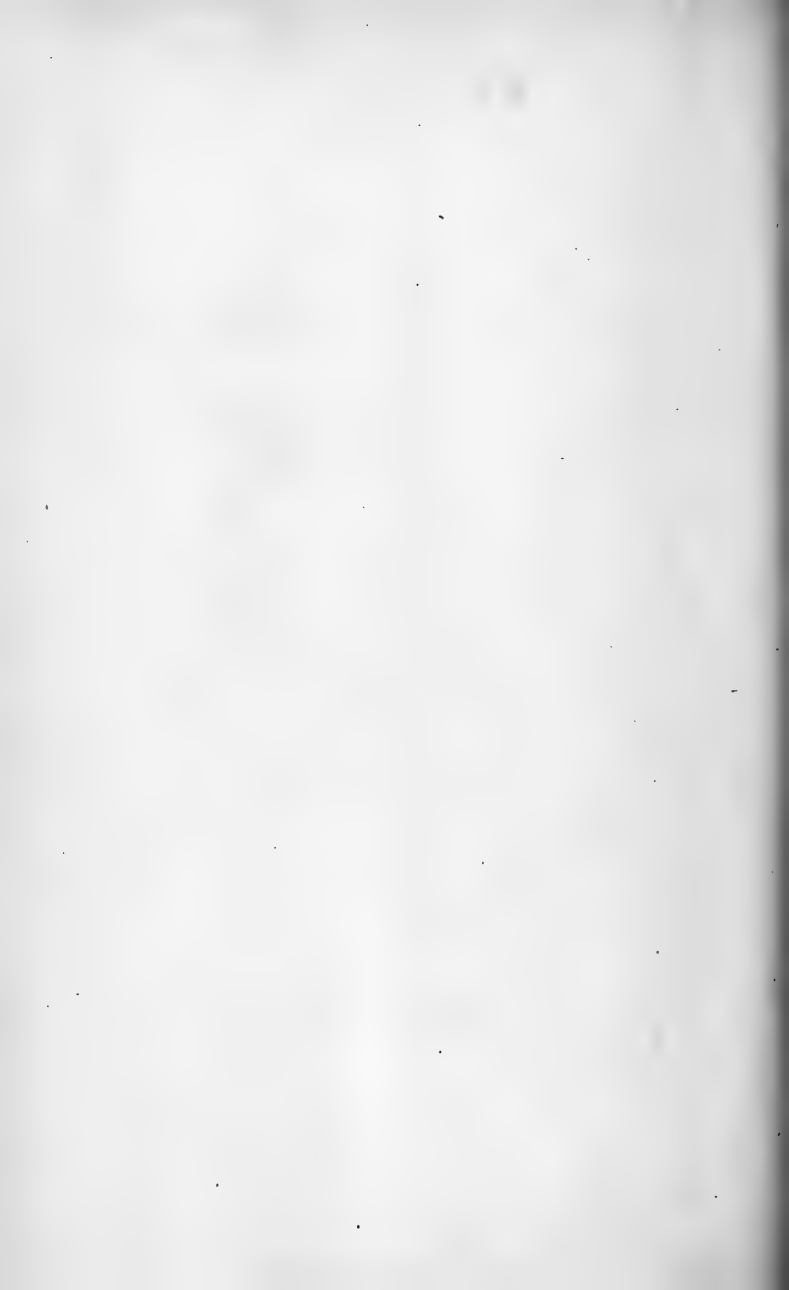


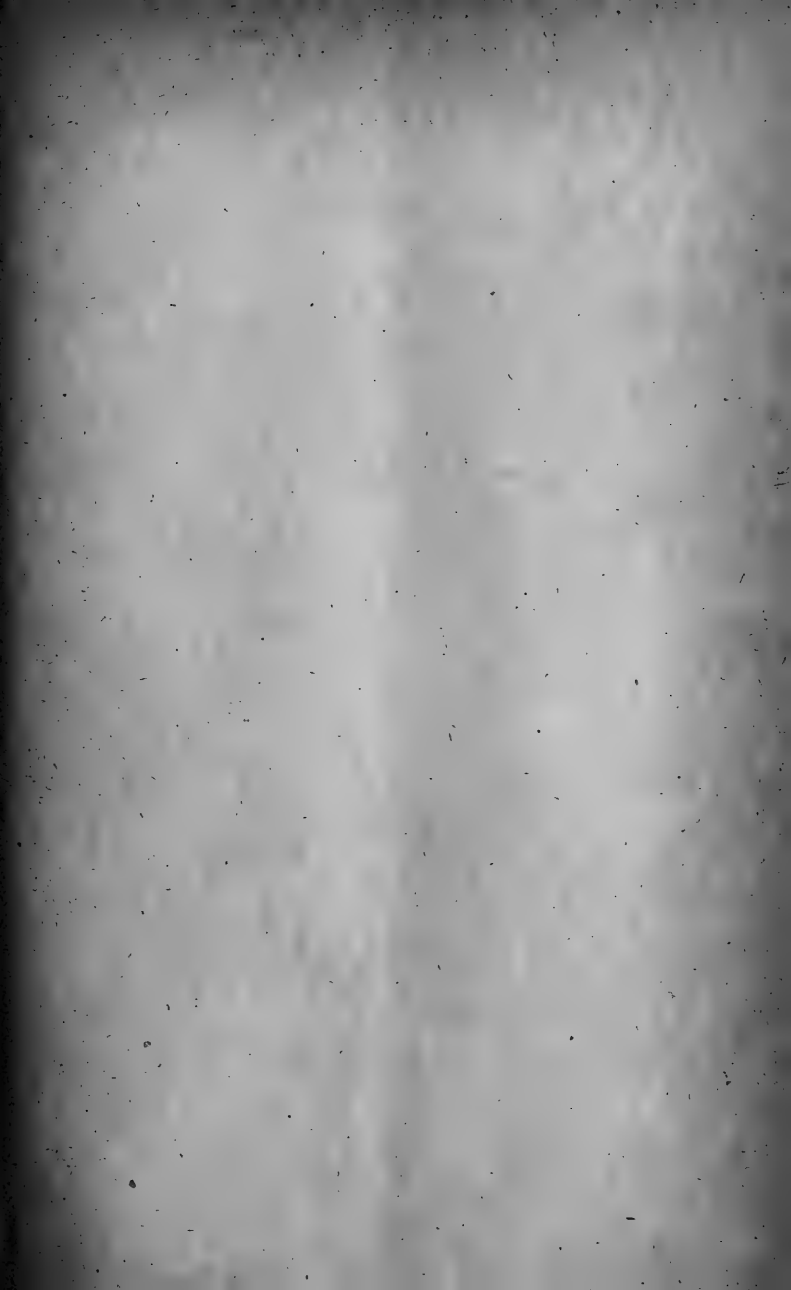
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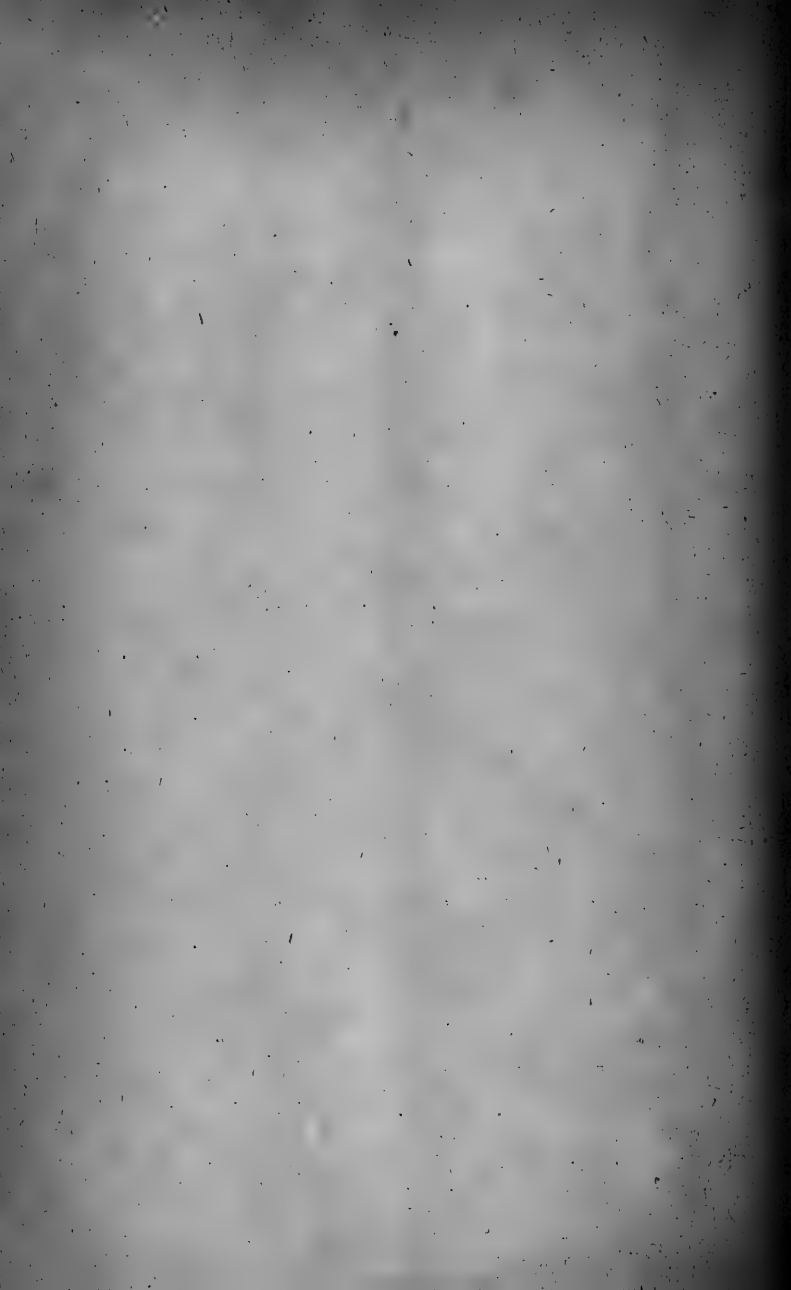
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CHESTER

Society of Natural Science & Literature.

*(Founded by Charles Kingsley, 1871.)*

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TWENTY-FOURTH  
ANNUAL REPORT

AND

STATEMENT OF ACCOUNTS,

FOR THE YEAR 1894-95.



PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCXCV.



CHESTER SOCIETY  
OF  
NATURAL SCIENCE AND LITERATURE

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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TWENTY-FOURTH  
ANNUAL REPORT

AND  
STATEMENT OF ACCOUNTS FOR 1894-95,

AND THE  
LIST OF MEMBERS FOR 1895-96,

ALSO  
A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION, &c.



CHESTER:

PRINTED BY G. R. GRIFFITH, "THE CASTLE" PRINTING WORKS.

MDCCCXCV.





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AND

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MR. J. LYON DENSON.		DR. KING.		MR. E. W. OKELL.

## Hon. Auditors :

MR. BERESFORD ADAMS.                      MR. C. R. ENOCK.

## Curator and Assistant-Librarian :

MR. R. NEWSTEAD, F.E.S., *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its objects be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in a Committee, subject to the following Rules:—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Second, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section, may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business: Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting which will be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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YOUR Committee have pleasure in presenting their Twenty-fourth Annual Report, and in doing so must again congratulate the Members on the successful and efficient work done by the Society.

During the year fifty new Members have been elected, whilst the Society has lost through deaths and resignations twenty-one Members, leaving a total of 696 on the books, including Honorary and Corresponding Members.

It is with regret that we have to announce the removal of MR. T. SHEPHEARD from the City. He is one of the oldest Members of our Society, and has been a constant and liberal friend during the past twenty-four years; his research and work as a microscopist have been of signal value to the Society, and the kind and willing aid given to all who applied to him has helped to train up many to the use of the instrument. We wish him heartily and sincerely improved health in his new home, and it will be a pleasure to look forward to seeing him from time to time amongst us.

During the past year we have published the Fourth Number of our "Proceedings," and the Committee desire especially to recommend it to our Members. It contains much that will be of permanent interest to all who wish to make themselves acquainted with the past and present condition of the *Flora* and *Fauna* of the district. As the Society confines itself strictly to matters relating to the locality, the publications appear at irregular intervals, but the Committee will be pleased to receive short notes from any Members who may be willing to contribute them, which will be one of the best means of securing and disseminating accurate information. As one of the results of our past endeavours in this direction, we are pleased to

be enabled to state that our Society has been placed upon the list of Corresponding Societies in connection with the British Association for the advancement of Science, on the ground that we "undertake local scientific investigations and publish notices of the results."

The Natural History Collection was removed into the new room provided for the Society on the completion of the Grosvenor Museum, and was opened to the public on the 2nd of February last. The new room has been furnished by special subscriptions from some of the Members, but there is still much to be done. The Curator has worked wonders with the means and material at hand, but given a band of enthusiastic collectors, he would be enabled to compass still more. A detailed Report as to the condition of the Society's Collections will be presented by MR. NEWSTEAD.

The more immediate work of the Society is comprised under the heads SUMMER EXCURSIONS, EVENING RAMBLES, GENERAL LECTURES, and SECTIONAL MEETINGS.

#### SUMMER EXCURSIONS.

1894.

May 14th and 15th	.....	Eaton Fête.
June 13th	.....	Port Sunlight.
„ 28th	.....	Bryntisilio.
Aug. 15th	.....	The Gorge of the Alyn.
Sept. 5th	.....	Warrington.

The Excursion to Bryntisilio was the annual one, and we were on that occasion joined by Members of the Chester and North Wales Archæological and Historic Society. During the early part of the season there were not so many Evening Rambles as in past years; many of our Members being much occupied in making preparations for the Eaton Fête.

#### EVENING RAMBLES.

1894.

June 20th	.....	Waverton.
July 4th	.....	Eddisbury Hill.
„ 11th	.....	Eaton Gardens.
„ 18th	.....	Delamere Forest.

The Annual Conversazione took place on October 8th, in the Town Hall, under the Presidency of DR. DOBIE, who this year received the Kingsley Memorial Medal from the hands of THE COUNTESS GROSVENOR, "for having materially contributed to the promotion and advancement of Natural Science." Grants were made from the Kingsley Fund to MR. ALFRED NEWSTEAD and MR. A. E. GOODMAN for their collections in Natural History. There was a good display of objects of interest in the various rooms; also the usual Natural History Specimens; and one room was devoted to instruments and objects connected with the science of Astronomy. MR. STIVENS' Collection of British and Foreign Birds was shown in the Assembly Room, and proved very attractive. The Microscopes in the Council Chamber were, as usual, well patronised. There were also good Photographic exhibits; and it may be added the Society still retains the interest of its Members, and from the number of visitors drawn to our Annual Conversazione, we may hope that in the future we shall secure some useful Members.

The following is a *precis* of the General Evening Meetings:—

1894.

Oct. 25th—"A Journey East of the Jordan," by GREY HILL, ESQ.

Nov. 27th—"Krakatoa: The mighty Volcano," by SIR ROBERT BALL, F.R.S.

1895.

Jan. 24th—"An Art Lecture," by HUBERT HERKOMER, ESQ., R.A., M.A., Slade Professor, Oxford.

Jan. 31st—"A Ramble in Holland," by R. ANDERTON NAYLOR, ESQ., F.R.S. Lit.

Feb. 28th—"Life in the Insect World," by MR. R. NEWSTEAD, F.E.S., Curator of the Grosvenor Museum.

Mar. 27th—"A Botanist's Rambles in Northern Spain," by THEO. WARDLEWORTH, ESQ.

Apr. 25th—"Annual Meeting; also a Paper on "The rare old City of Chester," by MR. HARPER GAYTHORPE.

There have been seven General Meetings during the past Session. Owing to the extensive use of the lantern,

the Meetings have been well attended, as the illustrations add greatly to the attraction and interest of the Lectures. Two of the Meetings were held in the Music Hall, as our own Lecture Theatre did not offer sufficient accommodation to the large assemblage attracted by SIR ROBERT BALL and PROF. HERKOMER.

The various Sections into which the Society is divided have met regularly during the winter.

The Committee take this opportunity of thanking those Members and friends who have added to the interest of the Meetings by contributions of Papers and other communications of value, and by exhibiting at the *Conversazione*.

They also desire to record their thanks to donors of Books to the Library and Slides to the Cabinet.

Your Committee have met twelve times during the year for the transaction of business, and as far as lies in their power, have endeavoured to promote the true interests for which the Society exists, and trust that in so doing they have secured the confidence of the Members.

HENRY STOLTERFOTH, M.A., M.D.,

*Hon. Scientific Secretary.*

APRIL 25TH, 1895.



## CURATOR'S REPORT.

IN order that the Curator should devote as much time as possible in the preparation and arrangement of the Society's Collections, and the final arrangement of them in the new wing of the Museum, it was found necessary to forego all field-work† for the time being, and to solicit as little help as practicable from Field-Naturalists. Obviously this has reduced the amount of donations very considerably, as will be seen on comparing the following table with those of previous years:—

ABSTRACT OF THE REPORT.	Species Presented.	Total of Species.	Total of Specimens.
Botany .. .. .	..	..	..
Foraminifera .. .. .	165	165	*
Coleoptera (Beetles) .. .. .	48	48	48
Neuroptera (Dragon Flies) .. .. .	1	1	2
Hymenoptera (Bees, &c.) .. .. .	5	5	21
Lepidoptera (Moths) .. .. .	48	48	91
Hemiptera (Plant Bugs) .. .. .	4	4	10
Diptera (Two-winged Flies) .. .. .	2	2	3
Crustacea (Shrimps, &c.) .. .. .	2	2	6
Mollusca (Shells) .. .. .	300	300	..
Aracnida (Spiders) .. .. .	7	7	27
Pisces (Fish) .. .. .	2	2	2
Aves (Birds) .. .. .	40	40	64
Nests and Eggs .. .. .	22	22	79
Mammalia (Animals) .. .. .	6	6	6
Reptiles .. .. .	3	3	3
Geology .. .. .	37 <sup>2</sup>	37 <sup>2</sup>	410
Miscellaneous .. .. .	..	..	16
TOTAL .. .. .	997	997	788

\* Impossible to give total of specimens.

† Much of the Curator's own time has been devoted to collecting for the Museum.

Now that the *local* collections are finally displayed in the new department of the Museum, it has been thought necessary to present a census of them, and a brief description of the classification adopted.

## CENSUS OF THE LOCAL COLLECTIONS.

	Number of Species.	Number of Specimens.
<i>Mammals</i> (Recent and Fossil) .. .. .	42	121
Birds .. .. .	171	429
Life-Histories of Birds .. .. .	27	208
Reptiles and <i>Batrachians</i> .. .. .	14	29
Fish .. .. .	45	91
<i>Molluscs</i> (many duplicates) .. .. .	230	2,026
<i>Polyzou</i> .. .. .	29	36
INSECTS :		
<i>Hymenoptera</i> .. .. .	198	576
Life-Histories of ditto .. .. .	15	279
<i>Lepidoptera</i> (including 120 duplicate specimens)	491	2,320
Life-Histories of ditto .. .. .	25	127
<i>Hemiptera-Heteroptera</i> and <i>Homoptera</i> ..	255	1,215
Life-Histories of ditto .. .. .	5	41
<i>Diptera</i> .. .. .	100	399
Life-Histories of ditto .. .. .	3	29
<i>Neuroptera</i> .. .. .	23	134
<i>Coleoptera</i> .. .. .	639	2,781
Life-Histories of ditto .. .. .	14	123
Gall-making Species .. .. .	18	122
* <i>Crustacea</i> (Shrimps, Crabs, &c.) .. .. .	14	46
<i>Echinodermata</i> (Sea-urchins, &c.) .. .. .	26	95
<i>Hydrozoa</i> .. .. .	24	42
<i>Spongida</i> (Sponges) .. .. .	15	57
<i>Foraminifera</i> .. .. .	201	503
Recent Plants .. .. .	400	485
GEOLOGY :		
<i>Pleistocene</i> .. .. .	234	876
<i>Trias</i> .. .. .	34	71
<i>Carboniferous</i> .. .. .	146	282
<i>Silurian</i> and <i>Cambrian</i> .. .. .	114	306
Minerals .. .. .	42	83
Miscellaneous (Drawings, &c.) .. .. .	..	290
		3,193
Less in old Collection .. .. .	..	14,133
		3,000
Total added since 1886 .. .. .	..	11,133

\* The correct total cannot now be given.

## CLASSIFICATION.

ANIMALS.—The Fossil and recent forms are arranged together; and that the former may be more instructive, excellent photographs of the restored animals have been provided by DR. STOLTERFOTH and placed alongside the fossil remains.



**BIRDS.**—The classification adopted is that of MR. HOWARD SAUNDERS, as given in his *British Birds*. Card-maps showing the distribution of about 100 species have been provided. A copy of DR. W. H. DOBIE's Paper on the Birds of the District [*"Birds of West Cheshire, Denbighshire, and Flintshire,"* C.S.N.S., Pro. No. IV., p. 282, 1894] has been printed on buff paper, mounted on card, and the records of each species separated. These have been placed alongside the species to which they refer, so that a very good idea may be obtained of the entire distribution, as well as the local distribution of each species. Since the last Report Life-histories of the following have been prepared:—Mistle Thrush, Sheld-Duck, Lapwing, Dabchick or Little Grebe, Rook, Kestrel, Roseate, and Arctic Terns.

**REPTILES AND BATRACHIANS.**—These are mounted on the most approved system. A few species are yet necessary to complete the series.

**FISH.**—These are so poorly represented that little attempt has been made at classification.

**MOLLUSCA.**—There are two series of these; one arranged in the Cabinet, the other in the Table Cases.

**POLYZOA.**—Very little has been added to this collection of recent years, except a few photographs of the living animals by DR. STOLTERFOTH.

**INSECTS.**—The life-histories are classified in the table cases, and are found to be much more instructive to the general public than the more complete series of the imago only. These latter are arranged in Cabinets for the use of students, but can always be seen on application to the Curator or the attendants. The *Coleoptera*, *Lepidoptera*, *Hymenoptera*, *Hemiptera-Heteroptera*, and *Homoptera*, are well represented, but much remains to be done with the other Orders.

The remaining Invertebrates are all arranged in Table Cases; one of the latter is devoted to a magnificent series

of *Foraminifera* (fossil and recent) of the district, together with drawings and large plaster models. This unique collection has been deposited by MR. J. D. SIDDALL, who kindly undertook the classification and arrangement.

The Zoological series is so arranged that the student may, on entering the Museum, commence at either the highest or lowest forms. The most recent classification has been adopted throughout. A great deal remains to be done in the way of re-labelling the greater part of the collection; and part of the non-local collection used for teaching purposes needs rearrangement.

#### LOAN COLLECTIONS OF OBJECTS FOR LECTURES, &c.

During the year your Curator has given eight Free Lectures to various Institutions, which were fully illustrated by selections from the Society's collections.

The Curator returns his sincere and best thanks to the following for the loan of Reference Books:—MESSRS. A. O. WALKER, W. SHONE, A. W. LUCAS, E. HODKINSON, T. M. LOCKWOOD, THOS. SHEPHEARD, E. J. BAILLIE, DR. W. H. DOBIE, and DR. STOLTERFOTH.

In conclusion, your Curator begs most respectfully to thank all those who contributed so liberally to the "Furnishing Fund" for the purpose of providing cases and other material necessary for the proper display of the Natural History Collections; and who, by their sympathetic interest, has aided the efforts of the Curator in bringing together so valuable a collection of objects.

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### LIST OF DONORS AND ADDITIONS.

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#### BOTANY.

	Species.	Specimens.
The Curator—Collection of Grasses, &c., for mounting birds, &c.		

#### FORAMINIFERA.

Mr. J. D. Siddall (recent)	..	..	..	150	—	..
„ „ Fossil ( <i>in situ</i> )	..	..	..	15	—	..

## COLEOPTERA (Beetles.)

					Species.	Specimens.
The Curator	..	..	..	..	6	— 19
Mr. E. Theodore Green	..	..	..	..	1	— 1
Miss Tomlin	..	..	..	..	1	— 6
Mr. B. Tomlin	..	..	..	..	7	— 8
Mr. A. O. Walker	..	..	..	..	3	— 8

## NEUROPTERA (Dragon Flies.)

The Curator	..	..	..	..	1	— 2
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## HYMENOPTERA (Bees, &amp;c.)

Miss Tomlin	..	..	..	..	1	— 5
Mr. A. O. Walker	..	..	..	..	4	— 16

## LEPIDOPTERA (Moths, &amp;c.)

Mr. J. Arkle	..	..	..	..	28	— 64
Dr. W. H. Dobie	..	..	..	..	1	— 1
Mr. T. R. Hodges	..	..	..	..	1	— 1
Mr. R. J. Smith	..	..	..	..	17	— 23
Mr. Williams	..	..	..	..	1	— 2

## HEMIPTERA.

The Curator	..	..	..	..	3	— 8
Mr. A. O. Walker	..	..	..	..	1	— 2

## DIPTERA (Two-winged Flies.)

The Curator	..	..	..	..	1	— 2
Mr. Chas. Oldham	..	..	..	..	1	— 1

## CRUSTACEA.

Mr. A. O. Walker	..	..	..	..	2	— 6
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## MOLLUSCA (Shells.)

Mr. G. M. Saunders	..	..	..	..	300	— ..
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## ARACNIDA (Spiders.)

Mr. Geo. O. Day	..	..	..	..	1	— 6
Mr. G. Dutton	..	..	..	..	1	— 1
Mr. Garnett	..	..	..	..	1	— 1
Mr. Hunter	..	..	..	..	1	— 1
Mr. Chas. Oldham	..	..	..	..	3	— 18

## PISCES (Fish.)

Mr. A. O. Walker	..	..	..	..	2	— 2
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## AVES (Birds.)

Mr. J. Astbury	..	..	..	..	1	— 1
Mr. Thos. Bateman	..	..	..	..	1	— 2
Mr. A. D. Pitcairn-Campbell	..	..	..	..	1	— 2
The Curator	..	..	..	..	1	— 1

## AVES (Birds)—Continued.

					Species.	Specimens.
Mr. J. Lyon Denson	..	..	..	..	1	— 1
Dr. W. H. Dobie	..	..	..	..	3	— 5
Mr. Farmer	..	..	..	..	1	— 1
Sir Pyers Mostyn, Bart.	..	..	..	..	3	— 4
Mr. Chas. Oldham	..	..	..	..	1	— 1
Dr. Russell	..	..	..	..	1	— 1
Mr. R. J. Smith	..	..	..	..	25	— 44
His Grace the Duke of Westminster, K.G.	..	..	..	..	1	— 1

## NESTS AND EGGS.

Mr. Thos. Bateman	..	..	..	..	1	— 1
Lord Combermere	..	..	..	..	2	— 3
The Curator	..	..	..	..	1	— 5
Dr. Herbert Dobie	..	..	..	..	1	— 4
Sir Pyers Mostyn, Bart.	..	..	..	..	1	— 6
Mr. R. J. Smith	..	..	..	..	16	— 60

## MAMMALIA (Animals.)

Mr. T. A. Coward	..	..	..	..	1	— 1
Mrs. Allan C. McEwen	..	..	..	..	1	— 1
Mr. Garnett	..	..	..	..	1	— 1
Mr. R. J. Smith	..	..	..	..	2	— 2
Mr. A. O. Walker	..	..	..	..	1	— 1

## REPTILES.

Mr. E. J. Baillie	..	..	..	..	1	— 1
Mr. H. Nicholson	..	..	..	..	1	— 1
Messrs. T. A. Coward and Chas. Oldham	..	..	..	..	1	— 1

## GEOLOGY.

Bolton Corporation	..	..	..	..	1	— 32
Mr. Stewart Clark	..	..	..	..	2	— 5
The Curator	..	..	..	..	1	— 5
Rev. F. A. Potts	..	..	..	..	1	— 1
Mr. G. M. Saunders	..	..	..	..	..	— 367
Mr. J. Bairstow	..	..	..	Quantity of Albo-Carbon.		

## MISCELLANEOUS.

Dr. Stolterfoth	..	..	14 Photographs of Mammals.
Mr. Thos. Shepherd	..	One large Case for Terns, value £5 ; Chloral Solution for preserving Vegetable and Animal tissues.	
Mr. A. O. Walker	..	..	..Two Photographs.

ROBT. NEWSTEAD, F.E.S.,

*Curator.*

## SECTIONAL REPORTS.

## BOTANICAL.

A series of six popular Lectures were given in this Section as below:—

1894.  
 Nov. 8—Introductory—"The Vegetable Kingdom," by MR. E. J. BAILLIE.  
 „ 22—"The Minute Structure of Plants" by MR. J. D. SIDDALL.  
 Dec. 6—"Fossil Botany," by MR. A. W. LUCAS.  
 „ 20—"Life-work of Plants from a Chemical Point of View," by  
 1895. MR. F. V. DUTTON.  
 Jan. 3—"The Preservation of Plants," by MR. LEO GRINDON.  
 „ 17—"Parasitic Plants," by MISS MACDONALD.

All the Meetings were well attended, and interesting discussions ensued upon most of them. Great pains had been taken by each Lecturer in the preparation of the Lectures, which were copiously illustrated by Lantern Slides, and by living and dried examples. We are encouraged to believe that these consecutive series of Lectures serve a most useful purpose in creating and keeping alive interest in that study of Natural History for which the Society was originally instituted. We would also take this opportunity to remind the Members that the Library and Herbarium are open to them for purposes of reference and identification of specimens, and that we, or the Curator, will be at all times very glad to give information and assistance desired.

J. D. SIDDALL, *Chairman*.

APRIL 25TH, 1895.

G. P. MILN, *Secretary*.

## ZOOLOGICAL.

ONE Meeting was held, viz.:—

- 1894, Nov. 1—Zoological observations during the past year by Members of the Society, including a Note on "Wood-borers," by R. NEWSTEAD, F.E.S., Curator.

MR. T. R. HODGES exhibited curious "Malformed Shells" of *Helix Aspersa*, and a species of *Apion* with trifurcated antenna. The Curator exhibited a number of interesting species of Mammals, Birds, Insects, &c. The Note on "Wood-borers" was illustrated by Diagrams and Microscopes.

THOS. SHEPHEARD, F.R.M.S.,

APRIL 25TH, 1895.

*Secretary*.

## GEOLOGICAL.

IN consequence of the Courses of Lectures given by the Botanical and Literature Sections during the past Session, there has been only one Meeting of this Section, when MR. O. W. JEFFS gave a very interesting Paper on "From Chaos to Man: a Study in Geological Evolution," illustrated by specially prepared lantern photographs.

Our district is exceedingly rich in various kinds of rocks, ranging from the Cambrian System to the New Red Sandstone, some of which contain abundant Fossils, together with Cave Bones and Glacial Boulders and Shells; and an interesting and varied collection of them is now displayed in our extended Natural History Museum. It is, therefore, hoped that arrangements will be made for conversations in the Museum, that those in our Society interested in Geology may have these valuable specimens brought directly under their notice; and thus an incentive may be given to the study of the subject in the different localities from which the fossils have been obtained.

ALFRED W. LUCAS,

APRIL 25TH, 1895.

*Secretary.*

## LITERATURE.

A Course of six Lectures on "England under Elizabeth" was projected. The four following were delivered:—  
1894.

Feb. 7—"England and Europe in the 16th Century," by REV. A. H. FISH, B.A.

„ 22—"Elizabeth and Mary Queen of Scots," by REV. A. H. FISH, B.A.

Mar. 7—"Social Life and Customs under Elizabeth," by REV. DR. MORRIS.

„ 21—"Trade and Commerce under Elizabeth," by REV. DR. MORRIS.

The third and fourth Lectures—on "England and Spain," and "Literature under Elizabeth"—were omitted, to allow of the delivery of the two last before DR. MORRIS's departure from Chester. All the Lectures were illustrated by Lantern Slides—many of them unique—and were well attended.

ARTHUR H. FISH,

APRIL 25TH, 1895.

*Secretary.*

## PHOTOGRAPHIC.

THE Section has held four Meetings during the Session :—

1894.

Nov. 15th—Exhibition of Lantern Slides by Members of the Section.

1895.

Jan. 10th—Exhibition of Lantern Slides, lent by The Royal Photographic Society.

Mar. 14th—"A Trip to Egypt and Palestine with a Kodak," by MR. PERCY K. ALLEN.

April 4th—Exhibition of Lantern Slides (French and Italian Views), lent by MR. JOHN MOSFORD, Tattenhall. Descriptive Lecture by THE SECRETARY.

## STATEMENT OF ACCOUNT.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
To Balance from 1893 ..	2	0	9	By Postages .. .. .	0	0	8½
„ Subscriptions .. ..	0	7	6	„ Photographic Society			
				Great Britain ..	1	1	0
				„ Carriage .. .. .	0	3	0
				„ Photographic Papers			
				(52 weeks) .. ..	0	17	4
				Balance .. .. .	0	6	2½
	<u>£2</u>	<u>8</u>	<u>3</u>		<u>£2</u>	<u>8</u>	<u>3</u>

J. H. SPENCER,  
*Secretary.*

APRIL 25TH, 1895.

## ASTRONOMICAL.

I have only one Meeting to report, which took place in December, when MR. HENDERSON, of Liverpool, gave an interesting Lecture on his experiences with the Telescope. At this Meeting Photographs of the "Moon," taken by members, were exhibited, and created much interest. Although this is the only Meeting we have had, a lively interest has been kept up during the winter months by members of the Section, especially those who possess telescopes; and, altogether, we have reason to believe that an increased interest is now being taken in this science.

We regret the resignation of our late Chairman, the REV. J. C. MITCHELL, F.R.A.S.; but we are pleased to know that DR. DOBIE has consented to become Chairman of the Section.

HERBERT DOBIE, M.D.,  
*Secretary.*

APRIL 25TH, 1895.

## PAXTON SOCIETY.

It is now six years since this Society was started, during which time the number of Members and Subscribers have increased from about thirty to over two hundred.

Regular Saturday Evening Meetings have been held throughout the Session, at which Papers (as follows) have been delivered to the Members, who invariably came together in goodly numbers :—

1895.

- Jan. 12—"Notes on the history of our Cultivated Hardy Fruits," by  
MR. J. D. SIDDALL.  
„ 26—"Soils and Manures," by MR. J. S. GORDON, B.Sc.  
Feb. 2—"The Bottling of Fruits," by MR. JOHN WEAVER.  
„ 16—"The Carnation," by MR. J. WYNNE-FFOULKES.  
Mar. 2—"Conifers," by MR. JOHN TAYLOR.  
„ 16—"Some of the abuses of the modern Horticultural Society," by  
MR. T. REDINGTON.  
April 6—"Violets in Frames," by MR. ROBT. WAKEFIELD.  
„ 20—"Insecticides"—as used at home and abroad (*Illustrated*), by  
MR. R. NEWSTEAD, F.E.S.

The majority of the members are either working gardeners or enthusiastic amateurs, many of whom take a keen interest in the Society and the work carried on in connection with it.

The Annual Fruit and Chrysanthemum Exhibition organised by this Society is now recognised as one of the best exhibitions of its kind in this part of the country; a pleasing feature being that the quality and number of exhibits keep improving every year.

THOS. WEAVER, *Chairman*.  
G. P. MILN, *Secretary*.

APRIL 25TH, 1895:





The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1895.

Dr.	£	s.	d.	Cr.	£	s.	d.
1894-5.				1894-5.			
By Subscriptions—				To Balance due to Treasurer	..	..	18 12 9½
2 for 1891-2 @ 5/-	..	0 10 0		„ Museum Management Committee	..	..	60 0 0
3 „ 1892-3 @ 5/-	..	0 15 0		„ Natural History Museum and Library	..	..	27 4 9
25 „ 1893-4 @ 5/-	..	6 5 0		„ Printing, Stationery, &c.	..	..	46 14 3
583 „ 1894-5 @ 5/-	..	145 15 0		„ Postages .. .. .	..	..	18 15 0
		153 5 0		„ Subscriptions—			
„ Nett proceeds from Lecture by Sir Robert				„ Palaeontographical Society	..	£1 1 0	
„ S. Ball .. .. .	..	..	21 6 11	„ Entomological Society	..	1 1 0	
„ Balance ( <i>Profit</i> ) on Excursion Account	..	0 2 0		„ National Footpaths Preservation			
				„ Society .. .. .	..	0 10 6	
						2 12 6	
Balance due to Treasurer	..	7 1 1½		„ Balance ( <i>loss</i> ) on Evening Meetings' Account		1 2 0	
				„ Alfred Newstead, One Year's Wages..	..	6 0 0	
				„ Deficiency on Furnishing Account	..	0 13 9	
						£181 15 0½	

June 10th, 1895—*Examined and found correct, and that a balance of Seven Pounds*  
*One Shilling and Three Halfpence is due to the Treasurer.*

JOHN MILLS, HON. TREASURER.      C. R. ENOCK, } HON. AUDITORS.  
BERESFORD ADAMS, }

"KINGSLEY MEMORIAL" FUND.

STATEMENT OF ACCOUNT for the Year ended 30th April, 1895.

Dr.		Cr.	
1894.	1894.		
To Balance	£ 31 0 5	By Double Number of "Proceedings," including cost of Illustrations, Postages, &c.	£ 82 1 2
" Received for sale of "Proceedings"	£ 37 13 6	" Printing Prize Lists, &c.	£ 0 8 6
" Dividends, re Great Western Railway Co.	£ 15 4 9	" Mr. Siddall, Engraving Medal	£ 0 5 3
" Pankers' Interest	£ 0 4 3	" Mr. Pritchard, Painting Name of President on Board	£ 0 3 0
Less Commission	£ 0 1 7	" Grant to Mr. Alfred Newstead	£ 3 3 0
Balance	£ 4 1 7	" Ditto to Mr. A. E. Goodman	£ 2 2 0
	<u>£ 88 2 11</u>		<u>£ 88 2 11</u>
		"1895—By Balance down	£ 4 1 7

22ND APRIL, 1895—Examined and found correct,

W. VINCENT,  
HON. AUDITOR.

EDMUND J. BAILLIE,  
HON. TREASURER,  
20TH APRIL, 1895.

*RECEIPTS AND EXPENDITURE in connection with the Furnishing of the New Natural History Room.*

RECEIPTS.		PAYMENTS.	
£ s. d.		£ s. d.	
Mr. Alfred O. Walker, J.P.	10 0 0	Six Large Cases	30 0 0
Dr. W. M. Dobie, J.P.	5 5 0	Sundry Joiners' Work	12 13 6
Mr. William Brown, J.P.	5 0 0	Making Tables	5 5 0
Mrs. Pitcairn Campbell	5 0 0	Iron Frames for Life-History Cases	3 6 6
Dr. Stollerfoth, J.P.	5 0 0	Sundry Smiths' Work	0 6 0
Mr. G. R. Griffith	5 0 0	French Polishing	0 9 6
Mr. George Barbour, J.P.	2 2 0	Glass for Cases	14 12 6
Dr. W. Henry Dobie	2 2 0	Wood Blocks for Mounting Specimens	10 7 3
Mr. P. H. Fletcher	2 2 0		
Mr. F. W. Longbottom	2 2 0		
Mr. John Mills	2 2 0		
Mr. E. J. Baillie, F.L.S.	1 1 0		
Mr. C. Brown, J.P.	1 1 0		
Mr. F. F. Brown, M.A.	1 1 0		
Mr. J. Lyon Denson	1 1 0		
Dr. Herbert Dobie	1 1 0		
Mr. A. Hamilton, M.R.C.S.	1 1 0		
Mr. A. H. Hignett	1 1 0		
Mrs. T. H. Hignett	1 1 0		
Mr. E. Hobday	1 1 0		
Dr. King	1 1 0		
Mr. E. M. Sneyd Kynerstley	1 1 0		
Mr. Jas. F. Lowe	1 1 0		
Brought forward	59 8 0		
Mr. C. Millington	1 1 0		
Mr. G. P. Miln	1 1 0		
Mr. E. Rae, F.S.A.	1 1 0		
Miss Johnson Roberts	1 1 0		
Mr. J. D. Siddall	1 1 0		
Mr. J. Taylor, F.R.C.S., J.P.	1 1 0		
Mr. Charles Wigg	1 1 0		
Mrs. Tom Hughes	1 0 0		
Mr. J. B. Manning	1 0 0		
Mr. R. O. Orton, J.P.	1 0 0		
Miss Tilston	1 0 0		
Mrs. Wood	1 0 0		
Mr. G. Wyndham, M.P.	1 0 0		
Mr. W. E. Archer	0 10 6		
Mr. H. B. Dutton	0 10 6		
Dr. Russell	0 10 6		
Mr. Lucas	0 10 0		
Mr. Ruddy	0 10 0		
Mr. C. W. Townshend, J.P.	0 10 0		
Miss Woodfin	0 10 0		
Balance from Society's Funds	0 13 9		
Carried forward	59 8 0		

£77 0 3

JUNE 10TH, 1895—*Examined and found correct,*

JOHN MILLS, HON. TREASURER.

C. R. ENOCK,  
BERESFORD ADAMS,

} HON. AUDITORS.

The following amounts have also been received since the Accounts were closed :—Mr. Vincent, £1 ; Mr. Lamont, £1 ; Mr. P. H. Lockwood, 10/6.

## PAST PRESIDENTS.

- 1871 to 1875—REV. CHARLES KINGSLEY, CANON OF CHESTER  
*(Founder of the Society.)*  
 1875,, 1891—PROF. T. MCKENNY HUGHES, F.R.S.  
 1891-2 ALFRED O. WALKER, ESQ., J.P., F.L.S.  
 1892-3 HIS GRACE THE DUKE OF WESTMINSTER, K.G.  
 1893-4 W. M. DOBIE, ESQ., M.D., J.P., F.R.A.S.  
 1894-5 W. M. DOBIE, ESQ., M.D., J.P., F.R.A.S.

## KINGSLEY MEMORIAL MEDAL,

ESTABLISHED 1877,

*"For having contributed materially to the promotion and advancement of some branch or department of Natural Science."*—Vide Trust Deed.

- 1877—MRS. CHAS. KINGSLEY (In Memoriam)  
 1878—JOHN PRICE, M.A.  
 1879—SIR PHILIP DE MALPAS GREY-EGERTON, BART., F.R.S.  
 1880—PROF. T. MCKENNY HUGHES, F.R.S.  
 1881—D. MACKINTOSH, F.G.S.  
 1882—ISAAC BYERLEY, M.R.C.S., F.L.S.  
 1883—GEORGE W. SHRUBSOLE, F.G.S.  
 1884—ALFRED OSTEN WALKER, F.L.S.  
 1885—JOHN DAVIES SIDDALL.  
 1886—HENRY STOLTERFOTH, M.A., M.D.  
 1887—WILLIAM SHONE, F.G.S.  
 1888—THOMAS SHEPHEARD, F.R.M.S.  
 1889—THOS. RUDDY.  
 1890—REV. CHAS. WOLLEY-DOD, M.A.  
 1891—ROBERT NEWSTEAD, F.E.S.  
 1892—OSMUND W. JEFFS.  
 1893—EDMUND J. BAILLIE, F.L.S.  
 1894—W. MURRAY DOBIE, M.D.

## KINGSLEY MEMORIAL PRIZES,

ESTABLISHED 1877,

*"For the reward, encouragement, and the advancement of the pursuit and study of Natural Science."*—Vide Trust Deed.

- |        |                     |    |                                                                                          |
|--------|---------------------|----|------------------------------------------------------------------------------------------|
| 1878 { | HELEN SMITH .....   | £5 | } <i>Herbarium of Flowering Plants.</i>                                                  |
|        | EDWIN W. OKELL....  | 5  |                                                                                          |
| 1879   | GEORGE SHRUBSOLE..  | 5  | <i>Carboniferous Fossils.</i>                                                            |
| 1881   | E. HOPKINS .....    | 5  | <i>Cryptogamous Plants.</i>                                                              |
| 1882   | GEORGE SHRUBSOLE .. | 10 | <i>Corals of the Mountain Limestone.</i>                                                 |
| 1886   | ROBERT NEWSTEAD ..  | 10 | <i>Hymenoptera.</i>                                                                      |
| 1887   | JOHN LYON DENSON..  | 5  | <i>Notes on Observations illustrating the Natural Science of the Society's District.</i> |
| 1888   | LILIAN E. TOMLIN .. | 5  | <i>Coleoptera.</i>                                                                       |
| 1889 { | EDITH C. TOMLIN.... | 5  | } <i>Diptera and Hymenoptera (Terebrantia.)</i>                                          |
|        | W. E. SHARP.....    | 5  |                                                                                          |
| 1890   | ALFRED J. NIXON ... | 10 | <i>Land and Fresh-Water Shells.</i>                                                      |
| 1892   | W. E. SHARP .....   | 10 | <i>Coleoptera.</i>                                                                       |

# KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition :—

**1895.**

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prize, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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*\*.\* All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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**NOTE.**—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors can obtain all particulars, and the conditions under which the Prizes are offered, from either of the General Secretaries; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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 The Prizes will be awarded at the Annual Conversazione.

## SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

- Academia Nacional de Ciencias de la Republica Argentina,  
Cordoba.
- Barrow Naturalists' Field Club.
- Brighton and Sussex Natural History Society.
- Bristol Naturalists' Society.
- British Association (Corresponding Society's Committee.)
- British Museum (Natural History), Cromwell Road,  
London, S.W.
- Burnley Literary and Scientific Club.
- Cardiff Naturalists' Society.
- Cassel Society of Natural Science.
- Dudley and Midland Geological and Scientific Society and  
Field Club.
- Epping Forest and County of Essex Naturalists' Field Club.
- Glasgow Natural History Society.
- Hertfordshire Natural History Society and Field Club.
- Huddersfield Naturalists' Society.
- La Société d'Histoire Naturelle de St. Wladimir á Kiew,  
Russie.
- Leeds Naturalists' Club.
- Liverpool Geological Society.
- Liverpool Geological Association.
- Liverpool Literary and Philosophical Society.
- Liverpool Microscopical Society.
- Liverpool Naturalists' Field Club.
- Liverpool Science Students' Association.
- Manchester Field Naturalists' Society.
- Manchester Geological Society.
- Manchester Microscopical Society.
- Menai Society of Natural Science.
- Northampton Natural History and Field Club.
- North Staffordshire Naturalists' Field Club and Archæological  
Society.
- Norwich Science Gossip Club.
- Nottingham Naturalists' Society.
- Patent Office Library, 25, Southampton Buildings, Chancery  
Lane, London, W.C.
- Postal Microscopical Society.
- Quekett Microscopical Society.
- Smithsonian Institution, Washington, D.C.
- The Missouri Botanical Garden, St. Louis, U.S.A.
- United States Geological Survey.
- Vatican Observatory, Rome.
- Vienna Natural History Museum.
- Wigan Literary and Scientific Society.
- Yorkshire Naturalists' Union, Leeds.

## HONORARY MEMBERS.


*Those marked (\*) have read or contributed Papers at the Society's Meetings.*


*Ball, Sir Robert S., F.R.S.	Observatory, Cambridge
Barrett, Chas. G., Esq., F.E.S.	39, Linden Grove, Nunhead, London, S.E.
*Carruthers, W., Esq., F.R.S.	The British Museum, South Kensington, London, S.W.
*Dawkins, Prof. W. Boyd, F.R.S.	Woodhurst, Wilmslow rd., Fallowfield, Manchester
De Tabley, The Right Hon. Lord	62, Elm Park road, Chelsea, London, S.W.
*Grindon, Leo H., Esq.	20, Cecil Street, Greenheys, Manchester
*Hicks, H., Esq., F.R.S.	Hendon Grove, Hendon, London, N.W.
Hooker, Sir J. D., K.C.S.I., F.R.S.	The Camp, Sunningdale, Ascot
*Hughes, Prof. T. McKenny, F.R.S.	Trinity College, Cambridge
*Hull, Prof., F.R.S.	20, Arundel Gardens, London, W.
Huxley, Prof. T. H., F.R.S.	Hoddeslea, Eastbourne
*Judd, Prof., J. W., F.R.S.	Royal College of Science, South Kensington, London, S.W.
*Lubbock, Sir John, Bart., M.P., F.R.S.	Down, Farnborough, Kent
*Morton, G. H., Esq., F.G.S.	209, Edge Lane, Liverpool, E.
Norman, Rev. Canon, F.R.S.	Burnmoor Rectory, Fence Houses, Durham
Oxford, The Lord Bishop of	The Palace, Cuddesdon, Oxford
Rae, E., Esq., F.S.A.	Court Lodge, Birkenhead
Renard, The Abbé	Curator of the Royal Museum of Natural History, Brussels
Roscoe, Sir Henry E., M.P., F.R.S.	10, Bramham Gardens, London, S.W.
*Rudler, F. W., Esq., F.G.S.	Museum of Practical Geology, Jermyan Street, London, S.W.
Sanderson, Dr. Burden, F.R.S.	64, Banbury Road, Oxford
*Vize, Rev. J. E., M.A.	Forden Vicarage, Welskpool

## CORRESPONDING MEMBERS.

Askew, Mr. Jas. H.	Bilston Lighthouse
Coward, Mr. T. A.	Higher Downs, Bowdon
Griffith, Mr. J. E., F.L.S., F.R.A.S.	Vronheulog, Upper Bangor, N.W.
Joachim, Mr. Geo.	Dunedin, Otago, New Zealand
Leather, Mr. F. S.	New Zealand
Nicholson, Mr. A. C., F.G.S.	Bronderw, Oswestry
Nixon, Mr. A. J.	Bircham School, Chichester
Oldham, Mr. C.	Sale, Cheshire
*Reade, Mr. Oswald A.	
*Rowston, Mr. R.	Kingsley, Alton, Hants
*Ruddy, Mr. Thos.	Palé, Corwen
Russell, Dr.	Colwyn Bay
Tomlin, Mr. J. R. le B., B.A.	Thorpe Villa, Liverpool Road
Walker, Mr. Fred	Heywood, Tenby
Wynne, Mrs. Lloyd	Coed Coch, Abergele
*Wilkins, Mr. T. S.	Uttoxeter
Williams, Mr. G. J., F.G.S.	H.M. Inspector of Mines, Bangor

## NOTICE.

 *THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN MILLS, Chemist, Eastgate Row.*

 *To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary according to Rule 8.*

## LIST OF MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

Acton, Mrs. ....	Grove road, Wrexham
Adams, Mr. Beresford .....	Shirley House, Liverpool road
Adams, Mr. Geo. F. ....	Ashbourne, Victoria road
Ainsworth, Miss F. ....	4 Nicholas street
*Allen, Mr. Percy K. ....	22 Lorne street
Alphonsus, Very Rev. F., D.D. (O.S.F.) ..	The Monastery, Grosvenor street
Appleton, Mr. John .....	Bouverie street
Archer, Mr. W. E. ....	5 Lightfoot street
*Arkle, Mr. J. ....	Diocesan School, George street
Arnold, Miss Margaret .....	Chichester street
Atkinson, Rev. Bernard N., M.A. ....	29 Chichester street
Bailey, Mr. H. Grant .....	Crypt Chambers
*Baillie, Mr. E. J., F.L.S. ....	Woodbine, Upton
Baillie, Mrs. ....	" "
*Bairstow, Mr. J., F.C.S. ....	32 Sealand road
Baker, Miss ..	2 Grey Friars
*Ballard, Mr. E. G., A.R.S.M. ..	Newton, Chester
Ballard, Mrs. ....	" "
Barbour, Mr. Geo., J.P. ....	Bolesworth Castle, Tattenhall
Barbour, Mrs. ....	" "
Barker, Mr. A. ....	6 Abbey street
Barnes, Rev. F., B.A. ....	Hope villa, Raymond street
Barraclough, Mr. E. ....	9 Abbot's nook, Liverpool road
Barrow, Miss .....	The Infirmary
Bassett, Miss C. E. ....	68 Northgate street



Baugh, Mr. A. C. .... Newton Grange, Hoole  
Baxter, Mr. Geo. .... Foregate street  
\*Bedford, Rev. J. L., M.A., F.L.S. 10 Abbey square  
Bedford, Mrs. .... " "  
Best, Rev. J. D., M.A. .... Diocesan Training College  
Bevan, Mr. William ..... 65 Phillip street, Hoole  
Bidlake, Rev. Walter, M.A. .... Crewe  
Billing, Miss Gertrude. .... Woodbank, Christleton road  
Birch, Mr. H. J. .... Corville, Liverpool road  
Birch, Miss ..... 18 Upper Northgate street  
Bird, Rev. W. R. .... 66 Bouverie street  
Bithell, Mr. W. .... Messrs. Beckett & Co., Eastgate row  
Blayney, Mr. A. .... 2 City Walls, W.  
Blayney, Mrs. ....  
\*Blogg, Rev. H. B., M.A. .... Frodsham Vicarage, Cheshire  
Blomfield, Admiral ..... { c/o Messrs. Woodhead & Co., 44 Charing  
Cross, London  
Blower, Mr. T. B. .... 6 The Groves  
Blower, Mr. W. .... 4 Williams' terrace, Hoole  
Bolland, Mr. Frank ..... 23 Hough green  
Bonnalie, Mr. G. S., L.D.S., R.C.S. ... Upton park, Chester  
Bonnalie, Mrs. ....  
\*Bonnalie, Mr. Fredk. J., L.D.S., R.C.S. ... 4 Abbey square  
Bowers, Mr. H. R., J.P. .... 2 Richmond place  
Bowers, Mrs. ....  
Bowles, Mr. T. S. .... 21 Raymond street  
Box, Mr. Henry ..... 46 Frodsham street  
Boyson, Miss Annie H. .... { Grove House, Larkhall Rise, Clapham,  
London, S.W.  
Bradbury, Mr. R. P. .... Stocks lane, Great Boughton  
Bradley, Miss Eva ..... 26 Watergate row  
Brassey, Miss ..... Rose Hill, Bowdon, Cheshire  
Brassey, Mr. Herbert ..... Curzon park  
Brassey, Mrs. ....  
Brewer, Miss E. .... 15 "Paradise" row  
Brewer, Miss Anne .....  
\*Broadbent, Mrs. .... Bache "cottage"  
Brown, Mr. C., J.P. .... The Folly, Flookersbrook  
Brown, Miss L. E. ....  
Brown, Mr. W., J.P. .... 18 "Curzon park"  
\*Brown, Mr. F. F., M.A. .... Eastgate row  
Brown, Miss Constance L. .... 59 Upper Northgate street  
Brown, Miss Marion .....  
Brown, Mrs. Samuel ..... 50 "Bridge street" row ("W.")  
Brownlow, Col., C.B. .... Boughton Hall  
\*Buckler, Rev. J. F., M.A. .... Bidston Rectory, near Birkenhead  
Buckley, Mr. Wm. Ireland, F.R.G.S.—The Academy, Winsford, Cheshire  
Bullin, Mr. F., J.P., L.D.S., R.C.S. ... 20 Nicholas street  
Bullin, Mrs. .... " "  
Bullin, Miss E. .... " "  
Burgess, Dr. R. Evans ..... Hoole  
Burrell, Mr. T. G. .... 119 Foregate street  
Burrows, Mr. R. .... Railway Inn, Brook street  
Butcher, Mr. Jas. .... 14 Union walk

Campbell, Mrs. Pitcairn ..... Vicar's Cross, Chester  
Campbell, Miss Pitcairn .....  
Campbell, Mr. A. D. Pitcairn .... " "



- \*Dobie, Mr. W. H., M.B. .... 22 Upper Northgate street  
 Dobie, Dr. Herbert ..... St. John street  
 Dod, Rev. C. Wolley, M.A., J.P. ... Edge Hall, Malpas  
 Dod, Miss Wolley ..... " "  
 Dodd, Mr. W. .... 143, St. Anne street  
 Dodd, Mr. John ..... 18, Cambrian crescent  
 Dodds, Miss M. Evelyn ..... Thornleigh, Hough green  
 Dowdall, Lieut.-Col. A. P. .... Curzon park  
 Dowdall, Miss A. .... " "  
 Duckworth Mr. Henry ..... Christ Church Vicarage  
 Duckworth, Mr. Winfryd Lawrence H., B.A. ... Christ Church Vicarage  
 Duff, Dr. .... 5 Abbey street  
 Dutton, Mr. George, J.P. .... Curzon House  
 Dutton, Mrs. .... " "  
 Dutton, Mrs. G. W. .... 15 Curzon park  
 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 Dutton, Mrs. .... " "  
 \*Dutton, Mr. F. V. .... University College of North Wales, Bangor  
 Dutton, Miss M. .... 8 Hough green  
 Dye, Mr. Alfred B. .... 72 Bouverie street  
  
 Edwards, Mr. J. .... 74 Foregate street  
 Edwardes, Miss Kate ..... 36 Sealand road  
 Eggers, Miss ..... 4 Hough green  
 Elliott, Dr. John, B.S., B.Sc. .... White Friars lodge  
 Elliott, Miss ..... " "  
 Enock, Mr. C. R. .... 15 Hough green  
 Enock, Mrs. .... " "  
 Enock, Miss ..... " "  
 Evans-Lloyd, Col., J.P. .... Stanley House  
 \*Evans, Mr. F. .... The Eastgate  
 Evans, Miss ..... The Elms, Hawarden  
 Evans, Miss J. E. .... The Limes, 5 Lumley road  
 Ewing, Mr. C. A. .... 3 Brookside villas, Flookersbrook  
  
 Farmer, Mr. Richard ..... 36 Liverpool road  
 Farrimond, Mr. F. T. .... Sunnyside, Boughton  
 Ferguson, Mr. W. .... The Cairn, Liverpool road  
 Ffoulkes, His Honor Judge Wynne, M.A. ... Old Northgate House  
 Ffoulkes, Mr. Thomas B., Junr. ... 8 Burlington road, Ipswich  
 Ffoulkes, Mr. Geo. B. .... 15 Chichester street  
 Finchett-Maddock, Mrs. H. .... Abbey square  
 Finchett, Mr. W. H. .... The Old Rectory, St. Mary's Hill  
 Firth, Mr. N. C. .... 125 Foregate street  
 Fish, Mrs. .... Arnold House, Parkgate road  
 \*Fish, Rev. A. H., B.A., B.Sc. ... " "  
 FitzPatrick, The Lady Olivia ... Warren Hall, near Chester  
 Fleet, Mr. H. .... 76 Lower Bridge street  
 \*Fletcher, Mr. P. H. .... Woodbrae, Curzon park  
 Fletcher, Miss ..... " "  
 Fluitt, Miss ..... 42 Upper Northgate street  
 Footner, Mr. H. .... 4 King's buildings  
 Footner, Mrs. .... " "  
 Fordham, Miss ..... 19 Raymond street  
 \*Francis, Mr. F. E. .... Kilmorey park, Hoole  
 Frater, Mr. Jas. .... Tarvin road  
 Frazer, Miss ..... King's buildings  
 Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
 Frost, Lady ..... " "

Frost, Mr. J. G. ....	Estyn, Sandy lane
Frost, Mr. J. M. ....	Dee Lodge
Frost, Mrs. ....	" "
Frost, Mr. T. Gibbons. ....	Richmond Hill
Frost, Mrs. ....	" "
Gardner, Mrs. W. A. ....	Redland House, Hough green
Gardner, Miss ....	" "
Gardner, Mr. Stanley R. ....	" "
Gardner, Mr. E. ....	9 Abbey street
Garnett, Mr. W. ....	Bridge street row
Garnett, Mrs. ....	The Rectory, Christleton
Gibson, Mr. J. M. ....	Buckley, <i>via</i> Chester
Gibson, Miss ....	5 Crane street
Gibson, Mr. John ....	South View, Eaton road
Gilbert, Mr. Leonard, J.P. ....	Egerton villa, Liverpool road
Gilbert, Mr. Egerton ....	132 Overleigh road, Handbridge
Gilbert, Mrs. ....	" "
*Giles, Rev. W. T., M.A., F.R.G.S. ....	"The Asylum, Chester"
Giles, Mr. E. S. ....	Gowymede, Vicar's Cross
Giles, Mrs. ....	" "
Glascodyne, Miss ....	11 Cambrian view
Golder, Mr. S. ....	41 Liverpool road
Goodman, Mr. A. E. ....	Fern Bank, Filkin's lane
Goodhart, Mrs. E. S. ....	96 Watergate flags
*Granger, Mr. F. M., M.R.C.S., L.R.C.P. ....	18 Nicholas street
Grantham, Rev. H. ....	S. Mary's Rectory
Gray, Miss ....	4 Lorne street
Greenhouse, Mr. Chas. ....	1 Eversley park
Gregg, Mr. W. ....	2 Watergate square
Griffith, Mr. G. R. ....	30 Hough green
Griffith, Mrs. ....	" "
Griffith, Miss ....	" "
Griffith, Miss O. Collenette. ....	" "
Griffiths, Mr. Jno. ....	Hamilton street, Hoole
Griffiths, Mrs. ....	" "
Griffiths, Miss ....	2 Holly Bank, Queen's park
Griffiths, Mr. John ....	" "
*Griffiths, Rev. T. Turner, M.A. ....	" "
Gunton, Miss ....	Rimmersfield
Gwyther, Mr. Cecil W., A.I.E.E. ....	National Telephone Co., Chester
Haddacks, Mr. C. R. ....	6 Ash grove
*Hall, Mr. J. H. A. ....	Montrose House, Hough green
Hall, Mrs. ....	" "
Hall, Miss Cecile ....	" "
Hall, Miss Josephine ....	" "
Hamel, Miss ....	Staunton House, near Coleford, Gloucester
Hamilton, Mr. A., M.R.C.S. ....	16 White friars
Hamilton, Mrs. ....	" "
Hampson, Mr. R. ....	Halkyn Road, Flookersbrook
Hardy, Mr. J. E. ....	The Blue Coat School, The Northgate
Harnaman, Mr. J. M. ....	Alvanley, Warrington
Harrison, Miss ....	13 Chichester street
Harrison, Mr. N. ....	Highfield, Curzon park
Harrison, Mrs. ....	" "
Haswell, Mr. G. H. ....	Queen's park

Haswell, Miss Florence E. ....	31	Parkgate road
Heeley, Mrs. W. J. ....		Lorne street
Henderson, Mr. J. E. ....	19	Pathway, Queen's park
Henderson, Mr. Wm. ....	11	Union Walk
Henshaw, Mr. T. ....		The Hollies, Liverpool road
Henshaw, Mr. T. A. ....	"	"
Henshaw, Miss Edith E. ....	"	"
Henshaw, Miss Florence M. ....	"	"
Heppel, Miss ....	8	Hough green
Heppel, Miss M. E. ....	"	"
Hewitt, Mr. David L. ....		Abbey House, Northgate street
Hickman, Mr. F. F. ....	8	Northgate street
Hickman, Miss ....	17	The Groves
Hicks, Capt. E. C. ....		St. Martin's-in-the-fields
Higgins, Miss Eva ....		The Manor, Overleigh
Higgins, Miss Millie ....	"	"
Hignett, Mrs. ....	14	Hough green
Hignett, Mr. A. H. ....	"	"
Hignett, Mrs. T. H. ....	18	Hough green
Hincks, Mr. H. T. ....	61	Northgate street
Hobday, Mr. J. ....		Alexandra Villa, Liverpool road
Hobday, Mr. E. ....	"	"
Hobday, Mr. Jas., B.A. ....	22	The Groves
*Hodges, Mr. W. ....	31	Hough green
Hodges, Mr. T. R. ....	"	"
Hodges, Miss A. G. ....	"	"
Hodkinson, Mr. E. ....	35	Pepper street
Holland, Miss A. E. ....	2	Eversley park
Holland, Miss S. L. ....	"	"
Holland, Miss A. M. ....	"	"
Holme, Rev. Canon, M.A. ....		Great Budworth, Northwich
Holmes, Mr. J. G. ....		Belmont, Curzon park
Hopkins, Mrs. ....	32	Queen street
Hopkins, Mr. T., M.B. ....	60	Watergate street
Hopley, Mr. J. H. ....		Chemist, Northgate street
Hostage, Mr. George B. ....	28	Eaton road
Hostage, Mrs. ....	"	"
Hostage, Miss ....	22	Eaton road
Howson, Rev. J. F., M.A. ....		Egerton House, Upper Northgate street
Howson, Miss ....	"	"
Howson, Miss M. ....	"	"
Howson, Rev. G. J., M.A. ....		The Vicarage, Crewe
Hudson, Mrs. R. S. ....		Bache Hall, Chester
Hughes, Mrs. McKenny ....	18	Hills road, Cambridge
*Hughes, His Honor Judge, Q.C. ....		Uffington House, Dee Hills
Hughes, Mrs. ....	"	"
Hughes, Mr. John ....	47	Victoria street, Westminster, London
Hughson, Mr. A. ....		Crossloom villas, Mollington
Huke, Mr. J. W. ....		Foregate street
Humberston, Miss ....		Newton Hall, Chester
Humphreys, Mr. E. Noel ....		Grosvenor chambers, 6, Newgate street
Hunter, Mr. Jas. ....		Maisonnette, Hough Green
Hunter, Mr. C. P. ....	"	"
Hutchings, Mr. J. H. ....	47	White friars
Jackson, Mr. Roger ....	26	Hough green
Jackson, Miss ....	"	"
Jackson, Miss ....		Upton villa, Chester

- Jacob, Rev. Joseph, M.A. .... Whitewell Rectory, Whitchurch (Salop)  
 Jayne, Mr. Roland G. .... The Palace, Dee side  
 Jayne, Mr. K. .... " "  
 \*Jebb, Mr. G. R., C.E., .... Fairyfield, Great Bar, Birmingham  
 \*Jeffs, Mr. O. W. .... Park terrace, 92 Westbourne st., Liverpool  
 Jephcott, Mr. Charles, B.A. .... 13 Lorne street (North)  
 Johnson, Major ..... 9 Upper Northgate street  
 Johnson, Mrs. .... 11 Bertram road, Sefton park, Liverpool  
 Johnson, Mr. .... St. Paul's School, Boughton  
 \*Johnson, Mr. M., L.D.S.I. .... 9 York villas, Lorne street  
 Johnson, Mr. Thomas C. .... Clayton house, Duke street  
 Jones, Miss Maggie ..... 1 King's buildings  
 Jones, Miss ..... The Northgate  
 Jones, Mrs. Edward ..... 1 Paradise row  
 Jones, Mr. Jno., Sheriff of Chester . 5 Lorne street (North)  
 Jones, Mr. F. M. .... " "  
 Jones, Mr. J. M. .... Roodee Works " "  
 Joyce, Mrs. .... Ferndale, Liverpool road  
  
 Keith, Dr. N. S., M.I.E.E. .... Westminster Hotel, Chester  
 Kelham, Mr. Augustus ..... 3 Eversley park, Liverpool road  
 Kelsall, Miss H. .... Abbot's court, Liverpool road  
 Kemp, Mr. George ..... 59 Bridge street  
 Kenyon, Mr. G. A., M.B. .... Flookersbrook  
 Kenyon, Mrs. .... " "  
 King, Dr. H. W. .... 26 Nicholas street  
 King, Mrs. .... " "  
 Kingsley, Miss ..... 10 Walton place, Hans place, London, S.W.  
 Kinsey, Mr. T. E. Morris ..... Dee Hills park  
 Knowles, Mr. E. R. .... Grosvenor street  
 Kynnersley, Mr. E. M. Sneyd .. Boughton lodge  
  
 Lacy, Mrs. .... Moore Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. A., Junr. .... " "  
 Lamont, Miss ..... " "  
 Lanceley, Mr. R. H. .... Victoria road  
 Latham, Mr. J. S. .... Green bank, Liverpool road  
 Lawley, Capt. The Hon. A .... Eccleston hill  
 Lawley, The Hon. Mrs. .... " "  
 \*Lawrence, Dr. A. .... The Asylum, Chester  
 Lees, Mr. W., M.R.C.S. .... The Bars  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lipsham, Mr. F. .... 76 Foregate street  
 Littler, Miss ..... 17 Eaton road  
 Lloyd, His Honor Sir Horatio .. Stanley place  
 Lloyd, Lady ..... " "  
 Lloyd, Mrs. E. .... Abbot's mount, Liverpool road  
 Lloyd, Miss M. E. .... 13 Chichester street  
 Lloyd, Miss E. .... 56 Princess street  
 \*Lockwood, Mr. T. M., F.R.I.B.A. .... 80 Foregate street  
 Lockwood, Mrs. .... 7 Queen's park  
 Lomax, Mr. F. T. .... 12 Bold terrace  
 Long, Rev. Francis, M.A. .... 14 City Walls  
 Long, Mrs. .... 2 Lumley road  
 \*Longbottom, Mr. F. W. .... Haslemere, Queen's park  
 Longbottom, Mrs. .... " "

- Lowe, Mr. G. B. ....25 Hough green  
 Lowe, Miss C. H. .... " "  
 \*Lowe, Mr. W. F., A.R.S.M., }  
     F.I.C., F.C.S. } 9 Hough green  
 Lowe, Mrs. .... " "  
 Lowe, Mr. Jas. F., B.A. ....Dee banks  
 Lowe, Mrs. .... " "  
 \*Lucas, Mr. A. W., F.G.S. ....7 Victoria pathway, Queen's park  
 Lund, Mrs. .... Thorpe villa, Liverpool road  
 Lyon, Rev. J., M.A. ....7 Grey friars
- \*Macdonald, Mr. G. E. ....3 Abbey square  
 \*Macdonald, Miss Eva .... " "  
 Manley, Mr. H. .... Aston, Nantwich  
 \*Manning, Mr. J. B. ....The Governor's House, H.M. Prison,  
     Pentonville, London  
 Manning, Miss Edith ....18 Upper Northgate street  
 Mann, Mr. A., M.B. ....Newgate street  
 Mann, Mrs. .... " "  
 Marchant, Mr. W. H. .... Whitefriars house  
 Marsden, Miss ....6 Grosvenor park road  
 Mason, Mr. F. B. ....67 Parkgate road  
 Massie, Admiral ....3 Stanley place  
 McEwen, Mrs. ....7 Alexandra terrace, Hoole road  
 McKindlay, Mr. Andrew ....Aldford, Chester  
 McMichael, Mr. J. A., B.A. ....24 Bouverie street  
 McMichael, Mrs. .... " "  
 Middleton, Mr. G. ....1 Sandown terrace  
 Middleton, Mrs. .... " "  
 Millington, Mr. C. .... Victoria house, Victoria road  
 \*Mills, Mr. John ....4 Eastgate row  
 Mills, Mrs. .... " "  
 \*Miln, Mr. G. P. ....27 Chichester street  
 Miln, Mrs. .... " "  
 Milne, Mr. S. ....8 Ash "grove, Wrexham road  
 Minshull, Mr. E. ....The Northgate  
 Minshull, Miss .... " "  
 \*Mitchell, Rev. J. C., B.D., F.R.A.S. .... Rutland Cottage, Parkgate road  
 Montgomery, Rev. J. K. .... Abbot's villas, Liverpool road  
 Montgomery, Mr. John K., B.Sc. ....Christ's College, Cambridge  
 Moreton, Mr. J. E., F.R.C.S. .... Tarvin  
 Moreton, Mrs. .... " "  
 Moreton, Mr. T. W. E., M.R.C.S. .... " "  
 Morgan, Rev. J. B. ....2 Exton park  
 Morphy, Mr. H. ....1 South view, Eaton road  
 \*Morris, The Rev. Canon, D.D. .... { St. Gabriel's Vicarage, 4 Warwick  
     ! Square, London, S.W.  
 Morris, Miss Margaret ....12 Stanley place  
 Mortimer, Lt. Col. W. H. ....1 Waterloo road, Chester  
 Mortimer, Mrs. .... " "  
 Mossford, Mr. John ....The Rhigi, Tattenhall  
 Mostyn, Sir Pyers W., Bart. .... Talacre, Holywell  
 Muir, Brigade-Surgeon Lt.-Col. }  
     H. Skey, M.D., F.L.S. } Curzon park  
 Murgatroyd, Mr. ....21 Cambrian Crescent  
 Musgrave, Mrs. ....45 White friars  
 Musgrave, Miss Constance .... " "

- \*Newstead, Mr. R., F.E.S. .... The Grosvenor Museum  
 Nicholls, Mr. W. A. M. .... 38 Eaton road  
 Nicholls, Mr. G. F. .... 12 Chichester street  
 Nicholson, Mr. J. M. .... Little Sutton, Chester  
 Noyes, Mr. H. J. .... 1 Cheyney villas
- \*Okell, Mr. E. W. .... 22 Northgate street  
 Okell, Mr. P. H. .... 1 Northgate street  
 \*Okell, Miss M. H. .... 6 Curzon park  
 Oldfield, Mrs. .... 68 Northgate street  
 Oldfield, Miss .... Bryn Clwyd, St. Asaph  
 Oldmeadow, Mr. Geo. E. .... 65 Parkgate road  
 Orton, Mr. R. O., J.P. .... Tattenhall, Chester  
 Owen, Mr. Hugh L. .... Ashton House, New Crane street
- Parkes, Mr. A. .... Bridge street row  
 Parkes, Mrs. .... " "  
 Parry, Mr. Gilbert .... Farndon Hall, Chester  
 \*Parry, Mr. T. S., M.B. .... 10 Upper Northgate street  
 Parry, Mr. Morris .... 21 Victoria road  
 Partington, Mr. John T. .... Watford House, Victoria road  
 Payne, Miss .... 4 Abbey green  
 Payne, Miss A. .... " "  
 Phillipson, Mr. J. .... 23 Liverpool road  
 Phillipson, Mr. H. G. .... " "  
 Porter, Mrs. .... Crowthorne, Childer Thornton, Chester  
 Potts, Mr. A., M.A. .... Diocesan Training College  
 Potts, Miss C. L. .... Heron Bridge  
 Powell, Mr. E. .... 54 Northgate street  
 Powell, Mr. T. J. .... 14 Newgate street  
 Preston, Mr. F. M. .... Abbot's grange, Liverpool road  
 \*Price, Mr. Walmsley .... 26 Watergate row  
 Price, Miss .... 53 Rutland terrace, Parkgate road  
 Prichard, Mr. Geo. .... 9 The Groves  
 Prichard, Miss .... " "  
 Pritchard, Mr. Chas. J. .... 30 Eaton road  
 Pritchard, Mr. W. .... 17 Watergate row  
 Pye, Mr. Jas. .... Clovelly House, Eversley park  
 Pye, Mrs. .... " " "  
 Pye, Mr. Fred. A. .... Saughall, Chester  
 \*Pye, Mr. T. E. .... Murdoch House, Shrewsbury
- Radford, Rev. Arthur, LL.M. .... 1 Castle esplanade  
 Rainhill, Mrs. .... Windsor Lodge, Mickle Trafford  
 Rayner, Miss .... Ash grove, Wrexham road  
 Richardson, Mr. A. .... Bridge street row  
 Roberts, Miss .... Bank Cottage, Neston  
 Roberts, Miss M. .... 8 Nicholas street  
 Roberts, Dr., J.P. .... 8 Abbey square  
 Roberts, Mr. Hugh .... Crypt Chambers  
 Roberts, Miss Johnson .... 7 Lumley road, Liverpool road  
 Roberts, Miss .... Overleigh, Hough green  
 Roberts, Mr. B. C., J.P. .... Oakfield, Upton  
 Roberts, Mr. R. H. .... 7 St. Anne street  
 Roberts, Mr. W. F. .... Well House, Chester  
 Roberts, Mr. J. Sheriff .... Curzon park  
 Roberts, Mrs. .... " "



Rogers, Mr. James	.....	The Cross
Rogers, Mr. Jno.	.....	Watergate flags
Rogers, Mr. W.	.....	" "
Rogerson, Mr. G. H.	.....	4 Nicholas street
Royle, Mrs.	.....	Hough Green House
Ryde-Jones, Mr. T.	.....	Union Bank House, The Bars
Sandbach, Mr. S. H., J.P.	.....	Cherry hill, Malpas
*Sandford, Mrs. Henry	.....	Queen's School
Sant, Mr. T.	.....	Frodsham
*Schidrowitz, Dr. P., Ph.D., F.C.S.	.....	24 Chichester street
Schröder, Mr. W. G.	.....	17 Eaton road
Scotland, Mrs.	.....	Vicar's lane
Scott, Mr. John	.....	19 Chichester street
Scott, Rev. S. Cooper, M.A.	.....	St. John's Rectory
Segar, Mr. F., L.D.S.E.	.....	White Friars House
Sharpe, Mr. F. W.	.....	7 Abbey square
Sharpe, Mr. Alan	.....	" "
*Shepherd, Mr. T., F.R.M.S.	.....	Kingsley, Bournemouth
Shepherd, Mrs.	.....	" "
Shepherd, Miss	.....	" "
Shepherd, Miss Emma	.....	" "
Shepherd, Miss F.	.....	" "
Shepherd, Miss Rose	.....	" "
Shepherd, Mr. W. F. J.	.....	Bridge Street row
Shepherd, Mr. J. D.	.....	National Provincial Bank, Wrexham
Shepherd, Mr. J. C. B.	.....	1 Allington terrace, Hoole road
*Shone, Mr. W., F.G.S.	.....	Upton park
Shone, Mrs.	.....	" "
Shone, Mr. Wm., Junr.	.....	" "
Shrubsole, Mr. Alfred	.....	Town Hall Square
*Siddall, Mr. J. D.	.....	19 Eaton road
Siddall, Mrs.	.....	" "
Siddall, Miss Annie	.....	" "
Siddall, Miss G. M.	.....	" "
Siddall, Mr. W.	.....	" "
Simpson, Mr. C.	.....	Kilmorey park, Chester
Simpson, Mr. Ricardo	.....	Elsinore, Curzon park
Sitwell, Mrs.	.....	Eaton road
Smith, Mr. T.	.....	Blacon Point, Chester
Smith, Mrs. S.	.....	16 Nicholas street
Smith, Miss H.	.....	3 Chichester street
Smith, Mr. John	.....	Market square
Smith, Miss	.....	25 Chester street, Saltney
Smith, Mr. R. J.	.....	Aldford, Chester
Smith, Mr. T.	.....	73 Bouverie street
Smyth, Miss Lyle	.....	Barrowmore Hall, near Chester
Sparling, Rev. W., M.A.	.....	Upton Vicarage, Chester
*Spencer, Mr. J. H.	.....	36 Bridge street
Spencer, Mr. S.	.....	8 Eastern pathway
Stanyer, Mr. William	.....	30 Newgate street
Stewart, Mrs.	.....	13 Stanley place
*Stolterfoth, Dr., M.A., J.P.	.....	1 Grey friars
Stolterfoth, Mrs.	.....	" "
Stolterfoth, Miss	.....	" "
Storr, Mr. F.	.....	21 The Groves
Storr, Miss	.....	" "
Storror, Mr. Jas. M.R.C.V.S.	.....	4 Park street
Storror, Miss Jessie	.....	" "

- Storror, Mr. Andrew ..... Bryntirion, Chichester street
- \*Strahan, Mr. Aubrey, M.A., F.G.S. { H.M. Geological Survey, Museum,  
Jermyn street, London, S.W.
- Sumner, Mrs. A. .... South view, Eaton road
- Sutcliffe, Miss Emily B. .... 10 Lorne street
- Tatlock, Rev. Canon ..... 21 St. John street
- Taylor, Mr. Hy. Enfield, J.P., M. Inst. C.E., Grey friars
- Taylor, Mr. J., F.R.C.S., J.P. .. Haygarth House, Newgate street
- Taylor, Mr. J. G. .... " "
- Taylor, Miss ..... " "
- Taylor, Mr. John ..... Hoole Hall Gardens
- Taylor, Mr. A. G. .... 6A Woodsome rd., Highgate rd., London, N.W.
- Taylor, Mr. J. Burnside ..... 4 Hough green
- Taylor, Mr. Hy., F.S.A. .... 12 Curzon park
- Taylor, Mrs. J. W. .... 8 Ash grove
- Taylor, Mrs. G. .... 11 Bold square
- Thomas, Mr. .... 18 Pepper street
- Thomas, Dr. E. J. Haynes ..... " "
- Thomas, Miss ..... " "
- Thomas, Miss Constance ..... " "
- Thomas, Miss F. M. .... " "
- Thomas, Mr. Maurice ..... 27A Tarvin road
- Thomas, Mr. Felix ..... Tarvin road
- Thomas, Mr. E. H. .... The Industrial Schools, Boughton
- Thomas, Mr. J. H. .... Chemist, Watergate street
- Thomas, Mr. W. C. .... 58 Northgate street
- Thompson, Mr. J. C. P. .... Netherleigh
- Thompson, Mr. Hy. .... Brightholme, Curzon park
- Thompson, Mrs. .... " "
- Thomson, Miss I. .... Cambrian view
- Thorntwaite, Miss E. M. .... c/o Mrs. Hincks, Northgate street
- Tilston, Miss ..... 1 King's buildings
- Tinkler, Mr. G. .... 45 Nicholas street
- Tomkinson, Mr. Jas., J.P. .... Willington Hall, Chester
- Tomlin, Mrs. .... Thorpe villa, Liverpool road
- Tomlin, Miss Lilian Ethel ..... " "
- Tomlin, Miss Edith Clarabel .... " "
- Townshend, Mr. C. W., J.P. .... Trevallyn, Wrexham
- Trafford, Mr. A. .... 14 Crane street
- Trelawny, Mr. H. D., J.P. .... Shotwick park, Chester
- Trelawny, The Hon. Mrs. .... " "
- Tyrer, Mrs. Alfred ..... Plas Newton, Chester
- \*Vincent, Mr. W. .... 2 Eaton road
- Vincent, Mrs. .... " "
- Wakefield, Mr. .... Newton Hall Lodge
- Wakefield, Mr. T. .... 3 Lorne street
- Wakefield, Miss A. E. .... " "
- \*Walker, Mr. A. O., J.P., F.L.S., Nant-y-Glyn, Colwyn Bay
- Walker, Mrs. .... " "
- Walker, Miss ..... 23 Liverpool road
- Ward, Miss ..... 18 Eaton road
- Watts, Mr. C. T. F. .... Grosvenor Museum
- Way, Mr. N. A. E. .... 1 Stanley street
- Weaver, Mr. W. M. .... Westminster buildings

Weaver, Mr. Thos. ....	Fern Cottage, Christleton
*Webster, Mr. G. Watmough, F.C.S. . . .	Brook Lodge, Brook lane
Webster, Mrs. ....	" "
Webster, Mr. Sirrell M. ....	" "
Webster, Miss Amy B. ....	30 St. Martin's-in-the-fields
Wells, Mr. E. ....	Eccleston, Chester
Wells, Mr. George J. J., F.I.C., F.C.S. . . .	47 Parkgate road
White, Miss E. ....	13 Abbey street
Whiteley, Mr. F. ....	Helsby, Warrington
Wigg, Mr. Charles ....	Hoole bank, Chester
Wigg, Mr. Walter J. ....	Lea Hurst, Hoole road
Wilbraham, Miss E. ....	5 King's buildings
Wilbraham, Miss F. ....	" "
Wilcock, Mr. T. M. ....	26 Newgate street
Wilkinson, Mr. R. ....	49 Cambrian view
Williams, Mr. J. E. ....	Westminster buildings
Williams, Mr. John ....	Aber Cottage, Saltney
Williams, Mr. A. C. ....	15 Newgate street
Williams, Rev. J. R., M.A. ....	Pulford Rectory, Wrexham
Williams, Miss ....	72 Tarvin road
Williams Mr. R. J. ....	6 Eaton road
Williams, Miss Aldersey ....	96 Watergate flags
Williams, Rev. John ....	4 Cheyney road
Williams, Mr. G. C. ....	" "
Williams, Mr. James ....	Egerton House, Hoole road
Wiseman, Mr. C. ....	The Poplars, Dee banks
Wiseman, Mr. Henry ....	" "
Wood, Mr. R. Stewart ....	Eccleston, Chester
Wood, Miss ....	28 Queen street
Wood, Mr. T. H. ....	c/o Mrs. Williams, 2 Nicholas street
Wood, Mrs. A. ....	c/o Miss Tilston, 1 King's buildings
Woodfin, Miss ....	26 Lorne street
Woodhouse, Mr. John ....	7 Raymond street
Wrench, Miss ....	Green lane, Tarvin road
Wright, Mr. A. J. ....	11 Bridge street row
Wright, Mrs. ....	" "
*Wynne, Mr. Geo. F. ....	Plas Gwyn, Minera, Wrexham
Wynne, Mr. J. H. ....	41A Tarvin road
Wynne, Mr. John ....	Waverton, Chester
Yeadon, Mr. Thos. ....	28 St. Anne street



\* \* As a New Edition of the Catalogue of Books in the Society's Library will shortly be published, the usual list of recent additions has been omitted from this Report.

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## THE LIBRARY

IS OPEN TO THE MEMBERS DAILY FROM 10 A.M. TO 5 P.M.; AND ON THURSDAYS DURING WINTER FROM 10 A.M. TO 8 P.M.

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The **Fourth Volume of Proceedings** is now ready, and may be obtained by any Member of the Society on application to the CURATOR, at the Grosvenor Museum; price 5/-.

Copies of Volumes II. and III. may still be obtained at the Museum; price 2/6 each.

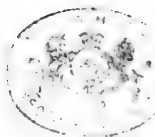
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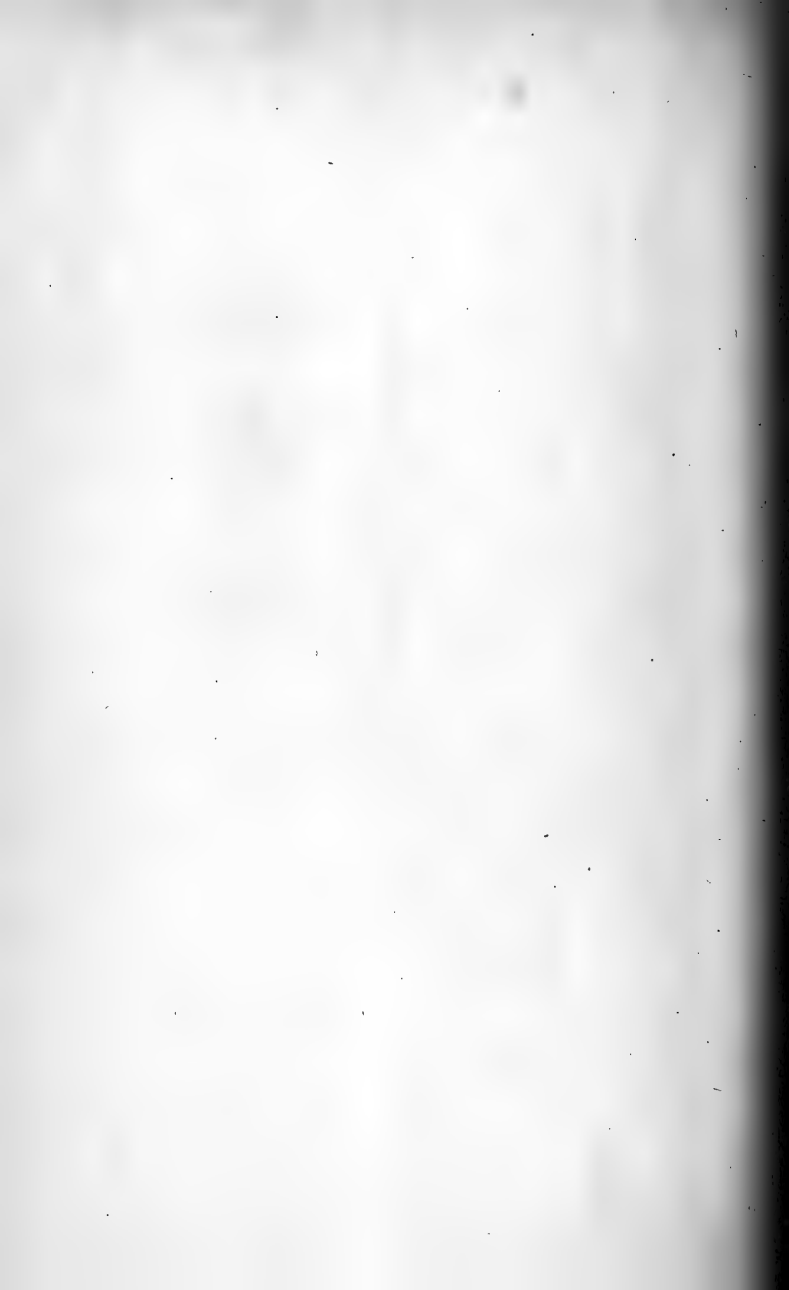


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CHESTER:  
G. R. GRIFFITH, PRINTER,  
GROSVENOR STREET.

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CHESTER

Society of Natural Science & Literature

*(Founded by Charles Kingsley, 1871.)*



TWENTY-FIFTH

ANNUAL REPORT

AND

STATEMENT OF ACCOUNTS,

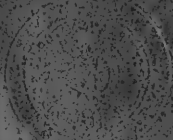
FOR THE YEAR 1895-96.



CHESTER:

PRINTED BY G. R. GRIFFITH, GROSVENOR STREET.

MDCCCXCVI.



CHESTER SOCIETY  
OF  
NATURAL SCIENCE AND LITERATURE

(FOUNDED BY CHARLES KINGSLEY, 1871.)

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TWENTY-FIFTH  
ANNUAL REPORT



AND  
STATEMENT OF ACCOUNTS FOR 1895-96,

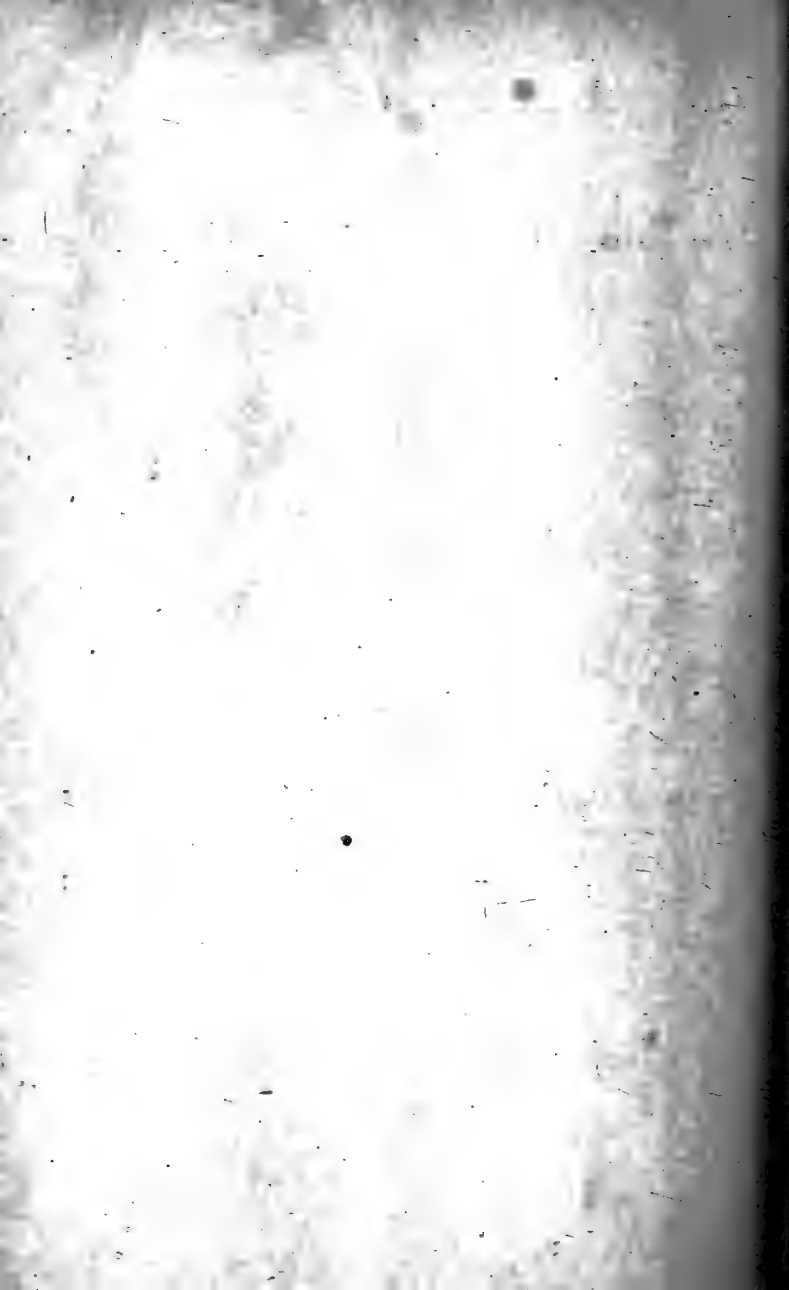
AND THE  
LIST OF MEMBERS FOR 1896-97;

ALSO  
A LIST OF THE KINGSLEY MEMORIAL PRIZES  
OFFERED FOR COMPETITION, &c.

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CHESTER :  
PRINTED BY G. R. GRIFFITH, "THE CASTLE" PRINTING WORKS.

MDCCCXCVI.



# Officers and Committee for 1896=97.

## President:

DR. H. STOLTERFOTH, M.A., J.P.

## Vice-Presidents:

HIS GRACE THE DUKE OF WESTMINSTER, K.G.

PROF. T. MCKENNY HUGHES, F.R.S. | W. M. DOBIE, Esq., M.D., J.P., F.R.A.S.  
A. O. WALKER, Esq., J.P., F.L.S. | T. SHEPHEARD, Esq., F.R.M.S.

## Officers of Sections:

### BOTANICAL.

CHAIRMAN—MR. J. D. SIDDALL ... .. 19 *Eaton Road.*  
SECRETARY—MR. A. E. GOODMAN ... .. *Fern Bank, Filkin's Lane.*

### ZOOLOGICAL.

CHAIRMAN—MR. A. O. WALKER, F.L.S. ... .. *Nant-y-Glyn, Colwyn Bay.*  
SECRETARY—MR. W. F. J. SHEPHEARD ... .. *Bridge Street Row.*

### GEOLOGICAL.

CHAIRMAN—MR. W. SHONE, F.G.S. ... .. *Upton Park, Chester.*  
SECRETARY—MR. A. W. LUCAS, F.G.S. ... .. *7, Victoria Pathway, Queen's Park.*

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SECRETARY—MR. W. F. LOWE, A.R.S.M., F.I.C., F.C.S. ... 9, *Hough Green.*

### MICROSCOPICAL.

CHAIRMAN—DR. STOLTERFOTH ... .. 1, *Grey Friars.*  
SECRETARY—MR. J. D. SIDDALL ... .. 19, *Eaton Road.*

### PHOTOGRAPHIC.

CHAIRMAN—DR. STOLTERFOTH ... .. 1, *Grey Friars.*  
SECRETARY—MR. J. H. SPENCER ... .. 36, *Bridge Street.*

### LITERATURE.

CHAIRMAN—THE RIGHT REV. THE LORD BISHOP ... .. *The Palace, Dee Side.*  
SECRETARY—REV. A. H. FISH, B.A., B.Sc. ... .. *Arnold House.*

### ASTRONOMICAL.

CHAIRMAN—DR. W. M. DOBIE ... .. *Northgate House.*  
SECRETARY—DR. HERBERT DOBIE ... .. 11, *St. John Street.*

## Hon. Treasurer:

MR. JOHN SIMON, 4, *Eastgate Row.*

## Hon. Secretaries:

MR. G. R. GRIFFITH, 30, *Hough Green.* | MR. G. P. MILN, *Milnholme, Brook Lane.*

## Hon. Librarian:

MR. P. H. FLETCHER, *Woodbrae, Curzon Park.*

## Committee:

THE ABOVE OFFICERS, *Ex-Officio,*

AND

MR. E. J. BAILLIE, F.L.S.	DR. KING.
MR. J. BAIRSIOW, F.C.S.	MR. F. W. LONGBOTTOM.
REV. J. L. BEDFORD, M.A., F.L.S.	MR. E. W. OKELL.

## Hon. Auditors:

MR. BERESFORD ADAMS. MR. C. R. ENOCK.

## Curator and Assistant-Librarian:

MR. R. NEWSTEAD, F.E.S., *The Grosvenor Museum.*

# RULES.

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1.—That the Title of this Society be "*The Chester Society of Natural Science and Literature*," and that its objects be the promotion of the study of Natural Science by Lectures, Field Meetings, the Reading and Discussion of Papers, and other suitable means.

2.—That the Officers be a President, Six Vice-Presidents, Treasurer, Three Secretaries, a Chairman and Secretary for each Section, and a Librarian.

3.—That the Committee consist of the above-named Officers, who shall be *Ex-officio* Members, and Six other Members of the Society—the President or a Vice-President the Chairman; and that the practical management of the Society be vested in a Committee, subject to the following Rules :—

4.—That every Candidate for Membership shall be proposed and seconded at a General Meeting, and, on paying the Subscription, shall become a Member; the name of the Candidate, with that of a Proposer and Seconder, to be sent (in writing) to the Committee previous to a General Meeting.

5.—That the Subscription be 5/- per annum, payable in advance, and due the 1st of May in each year; and any person, duly elected, may become a Life Member upon payment of £5.

6.—That distinguished scientific men, or any persons who may render special service to the Society, may be elected Honorary Members or Corresponding Members, on nomination by the Committee. The number of Honorary Members not to exceed Twenty-five.

7.—That each Member shall be allowed to introduce one *non-resident* friend at any of the General Meetings; but a Member may introduce a friend, whether resident in Chester or not, at any of the Sectional Meetings. The Chairman and Secretary of each Section, may, on application, allow a Member to introduce more than one friend to their own Sectional Meetings.

8.—That any Member desirous of withdrawing from the Society, shall give notice (in writing) to either of the General Secretaries, before the end of the year.

9.—That a majority of two-thirds present at any General Meeting shall have the power of expelling any Member whose conduct they deem objectionable.

10.—That the Committee shall meet monthly for the despatch of business: Five Members to form a quorum.

11.—That the Committee shall arrange at least six General Field Meetings in the year. The place of Meeting to be fixed by the Committee, and due notice to be given by the General Secretaries. In case of bad weather, the Members of the Committee present shall decide whether the Excursion shall be postponed or not.

12.—That the Committee shall arrange at least six General Evening Meetings in the year, at which Papers shall be read and discussed. No Paper shall be read without the previous sanction of the Committee. Objects of scientific interest may be exhibited at the Evening Meetings.

13.—That at the Annual General Meeting which will be held in the month of April, the Officers and Committee of the Society, and two Auditors, shall be elected by ballot; the Report of the past year and the Treasurer's Financial Statement read and adopted; and alterations made, if needful, in the Rules. Nominations for the Committee and Auditors to be sent (in writing) to either of the General Secretaries, Six days beforehand; and proposed alterations of Rules at least a Fortnight beforehand. Alterations in the Rules shall be sanctioned by a majority of two-thirds of the Members present; and no alterations in the Rules shall otherwise be made.

# ANNUAL REPORT.

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IN presenting their Twenty-fifth Annual Report, the President and Committee are glad to be in a position to say that during the past year the Society's work has been satisfactorily carried on, whilst the number of our ordinary Members remains about the same.

We shall miss from the list of our Honorary Members the distinguished name of the late PROFESSOR HUXLEY, for although he was never present at our Meetings, he always took a deep interest in the welfare of the Society; every true lover of science will regret the death of so gifted a votary, and whose reputation was world-wide. We have also to record the death of another distinguished Honorary Member in THE RIGHT HON. LORD DE TABLEY, a most able botanist, who did much good work in connection with science in his own County of Cheshire; he had frequent intercourse with many of our working members. The names of both these gentlemen appear in the first list of Honorary Members published in 1871.

From among our own number we record with deep regret the loss of our esteemed Treasurer, MR. JOHN MILLS. He was known to all our members for his uniform kindness and courtesy, and he will be long remembered amongst us, as one whose admirable business capacity made him a valued officer of the Society. His advice and opinion was always a great help to your Committee, whom he faithfully served for nearly twenty-one years.

The financial position of the Society will be placed before you, and a Treasurer will have to be appointed.

A new Catalogue of the Books of the Society has been prepared by the Assistant-Librarian, and this cannot fail to be of great service to the Members. It is also under

consideration to set aside another room for the purpose of the Museum Library; if this is arranged it will no doubt be more convenient to those Members who visit the Museum to consult Books of Reference.

The Natural History Museum is in good order, and is being continually improved by the never-failing energy of our valued Curator, MR. ROBERT NEWSTEAD, F.E.S.

A Report of the Kingsley Memorial Fund will be presented by the Hon. Treasurer, MR. E. J. BAILLIE.

The general work of the Society is comprised under the following heads:—EXCURSIONS, EVENING FIELD MEETINGS, GENERAL LECTURES, ANNUAL CONVERSAZIONE, SECTIONAL MEETINGS, and FREE COURSES OF LECTURES.

#### EXCURSIONS.

1895.	
May 30th.....	Rhydymwyn and "The Leet."
June 28th.....	Arenig Fawr.
July 24th.....	Vale Royal.
Sept. 18th.....	Locomotive and Steel Works, Crewe.
1896.	
Feb. 24th.....	Salmon Hatchery, Trevor.

Owing to bad weather the Excursion to Arenig Fawr had to be abandoned, much to the regret of many of our members. It is to be hoped that in the coming season we may be more fortunate in the matter of weather, and we trust that our younger members will endeavour to make themselves better acquainted with the neighbourhood of the City. Real work depends greatly on our knowledge of the country locally, and this is much aided by our Excursions.

#### EVENING FIELD MEETINGS.

1895.	
July 3rd.....	Eaton Gardens.
„ 17th.....	Upton and Newton Nurseries.
„ 31st.....	Dee Iron Works, Saltney.

The Annual Conversazione was held on October 24th, 1895. It took place in the Grosvenor Museum (by the kind permission of the Management Committee), and was



a brilliant success, for only in the Museum can members be brought in close touch with the now most valuable collection of Local Natural History Specimens. The thanks of the Society are due to GEORGE WYNDHAM, ESQ., M.P., for the very interesting Address he gave, pointing out the especial value and merits of the various exhibits. There were two other short Lectures given in the Theatre, one by MR. J. HANMER HUTCHINGS on the "Revival of a Mediæval Art," the other by DR. SORBY, F.R.S., on "Marine Objects," prepared and mounted by his new process; to both these Gentlemen we are greatly indebted. This was the first occasion since the completion of the building that the members of our Society had an opportunity of inspecting the Technical Schools, now open to our Citizens, and affording so many advantages and aids towards pursuing such necessary branches of education.

Our members, I am glad to say, contributed many interesting exhibits to the microscopical display, which is always attractive to the general public.

The following General Lectures were given during the past Winter:—

1895.

Oct. 31st—"On the Compound Eye of Insects," by the President  
(DR. STOLTERFOTH.)

Nov. 28th—"The Life History of a Mountain," by MRS. LEO H. GRINDON.

1896.

Jan. 27th—"Other Worlds than Ours," by SIR ROBERT BALL, F.R.S.

Jan. 30th—"Typical Flora of the Earth," by MR. J. D. SIDDALL.

Feb. 26th—"Botanic Gardens—Past and Present," by Professor R. J.  
HARVEY GIBSON, M.A., F.L.S., of Victoria University,  
Liverpool.

Mar. 26th—"The New Photography and the X-Rays of Rontgen," by  
the REV. A. H. FISH, B.A., B.Sc.

Mar. 28th—Ditto ditto (repeated by general desire)

Apr. 16th—"Leaf Fungi," by MR. W. T. HAYDON.

Apr. 30th—Annual Meeting, and Lecture—"The Electric Current and some  
of its Chemical Effects," by MR. J. A. McMICHAEL, B.A.,  
B.Sc., Head-Master of the Technical Day School.

In no previous year has the attendance at these lectures been more encouraging. This, to a certain degree, is due to the interesting subjects selected, and

also to the ability of the Lecturers. The lecture by SIR ROBERT BALL, was given in the Music Hall, which was filled by an enthusiastic audience, such as this renowned Lecturer can command; we hope to welcome him again next Autumn. Chester has in no way been behind the rest of the world in its interest in the New Photography, and we have been fortunate in having in our midst so capable an exponent as the REV. A. H. FISH, B.A., B.Sc., who at no inconsiderable trouble and expense, was able to show and demonstrate all that is at present known on the subject.

The various Sections into which our Society is divided have all held meetings during the past Winter, and the Secretaries of Sections will present their respective Reports. Besides what has been already mentioned there have been two series of Free Lectures on "Zoology" and "Photography," intended as introductory to the study of these subjects. Although not exactly in the work of our Society, still under the auspices of your Committee, we gladly welcomed MISS KINGSLEY (the daughter of our great Founder), who gave us a Course of six Lectures on "French Painters and Pictures of the 19th Century." To those who had some previous knowledge of the subject the lectures were exceptionally valuable, and the very able and eloquent way in which the subject was treated made it attractive to all, and showed that the Lecturer had entered thoroughly into the spirit and character of her subject.

Members are reminded that an invitation from Liverpool has been accepted by the British Association to visit that City in 1896, and as our Society is on the list of Corresponding Societies of the Association it is hoped that during the coming Session each member will make an effort to increase the strength of the Society, and so bring its membership roll up to figures more worthy of its antecedents. It is proposed to hold the Annual Conversazione on Thursday, September 24th, on which

occasion a considerable number of the members of the British Association (including some of the leading Scientists of England and the Continent) are expected to be present.

Your Committee have met fifteen times during the past year for the purpose of transacting the business of the Society, and we trust that the members feel satisfied that during the past five-and-twenty years some steady progress has been made to advance the objects for which the Society was founded, and that those who direct its affairs have at heart the true interests of all the members.

The Committee desire to take this opportunity of thanking those members and friends who have added to the interest of the meetings by contributions of Papers and other communications of value, and by exhibiting at the *Conversazione*.

They also desire to record their thanks to donors of Books to the Library and Slides to the Cabinet.

HENRY STOLTERFOTH, M.A., M.D.,

*Hon. Scientific Secretary.*

APRIL 30TH, 1896.

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ANNUAL MEETING, APRIL 30TH, 1896.

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*The President (Dr. Stolterfoth) in the Chair.*

*Resolved:—*

“That the Annual Reports and the Statements of Account (now “submitted) be adopted, printed, and circulated among the “members of the Society.”

The retiring PRESIDENT (DR. STOLTERFOTH) was unanimously re-elected to that office for the ensuing year;

MR. JOHN SIMON was elected Honorary Treasurer, in the room of MR. JOHN MILLS, deceased;

It was notified that the other officers remain as in the past year, no new nominations having been received;

The following were elected on the Committee for the ensuing year:—Rev. J. L. Bedford, Dr. King, Messrs. E. J. Baillie, J. Bairstow, F. W. Longbottom, and E. W. Okell;

The REV. A. H. FISH, B.A., B.Sc., was nominated to receive the “Kingsley Memorial Medal” at the ensuing Annual *Conversazione*.

## CURATOR'S REPORT.

It will be seen by the following abstract there has been, during the past year, a considerable increase in the number of donations to the Society's Museum, due to the magnificent Herbarium of Dried Plants presented by MR. T. A. COWARD. This collection was formed by the late MR. T. COWARD, of Bowdon, and consists (for the most part) of Exotic Species; for this reason it is intended for the use of students in Botany, and for those who wish to extend their knowledge in plant-life beyond the *Flora* of the British Isles. The collection contains most valuable series of both interesting and rare plants, and will well repay a careful study. The whole collection has been overhauled, cleaned, and all the specimens labelled with the name of the donor, &c.; as there are over 16,000 specimens this has been no light task. The Hon. Secretary, MR. G. R. GRIFFITH, kindly provided the 16,000 labels, to whom the best thanks of the Committee are due.

The donations to the Zoological Section have fallen off very considerably, partly due to the fact that your Curator has done comparatively little or no field work during the past year, owing to over-pressure of other matters.

ABSTRACT OF THE REPORT.						Species Presented.	Total of Species.	Total of Specimens.
Botany	..	..	..	..	..	16,000	16,000	32,000
<i>Coleoptera</i> (Beetles)	..	..	..	..	..	30	30	45
<i>Homoptera</i>	..	..	..	..	..	1	1	1
<i>Lepidoptera</i> (Moths and Butterflies)	..	..	..	..	..	19	19	52
<i>Diptera</i> (Two-winged Flies)	..	..	..	..	..	1	1	1
<i>Mollusca</i> (Shells, &c.)	..	..	..	..	..	18	18	112
<i>Aracnida</i> (Spiders)	..	..	..	..	..	1	1	1
<i>Pisces</i> (Fish)	..	..	..	..	..	1	1	3
<i>Aves</i> (Birds)	..	..	..	..	..	43	43	44
Nests and Eggs	..	..	..	..	..	12	12	21
<i>Mammalia</i>	..	..	..	..	..	7	7	10
Geology	..	..	..	..	..	2	2	7
Miscellaneous	..	..	..	..	..	..	..	26
TOTAL						16,135	16,135	32,323

In addition to the series of free Zoological Lectures held in the Museum, your Curator has also gratuitously given many illustrated lectures both in the City and the County.

Several loan collections have been granted to various Institutions for illustrating lectures and other purposes.

MR. A. O. WALKER still favours us with the loan of a valuable series of Reference Works; the PRESIDENT, REV. A. H. FISH, DR. W. H. DOBIE, and MESSRS. T. A. COWARD, A. W. LUCAS, and CHAS. OLDHAM have also contributed to our requirements in this direction, and to whom we are gratefully indebted.

Your Curator is unable to conclude this Report without thanking those Members of the Society, and especially the President (DR. STOLTERFOTH), for the kindly aid given in the preparation of the Lantern Slides which were used to illustrate the course of Zoological Lectures.

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## LIST OF DONORS AND ADDITIONS.

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### ARACNIDA (Spiders.)

					Species.	Specimens.
Mr. George Dutton	..	..	..	..	1	— 1

### AVES (Birds.)

Mr. Boden	..	..	..	..	1	— 1
Lord Combermere	..	..	..	..	1	— 2
Mr. T. A. Coward	..	..	..	..	35	— 35
Mr. J. Lyon Denson	..	..	..	..	1	— 1
Dr. Herbert Dobie	..	..	..	..	1	— 1
Mr. J. W. Roberts	..	..	..	..	1	— 1
Mr. R. J. Smith	..	..	..	..	1	— 1
Mr. Jas. Tomkinson	..	..	..	..	2	— 2

### BOTANY.

Mr. T. A. Coward	..	..	..	..	16,000	— 32,000
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## COLEOPTERA (Beetles.)

					Species.	Specimens.
Mr. J. Arkle	..	..	..	..	1	1
Mr. J. Lyon Denson	..	..	..	..	1	5
Dr. Herbert Dobie	..	..	..	..	1	1
Mr. George Dutton	..	..	..	..	1	4
Miss C. E. Tomlin	..	..	..	..	1	1
The Curator	..	..	..	..	25	30

## DIPTERA (Two-winged Flies.)

Mr. J. Arkle	..	..	..	..	1	1
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## GEOLOGY.

Mr. T. J. Powell	..	..	..	..	1	6
Mrs. Price	..	..	..	..	1	1

## HOMOPTERA (Scale Insects.)

The Curator	..	..	..	..	1	1
-------------	----	----	----	----	---	---

## LEPIDOPTERA (Moths, &amp;c.)

Mr. J. Arkle	..	..	..	..	17	48
Miss Rayner	..	..	..	..	1	1
Purchased	..	..	..	..	1	3

## MAMMALIA (Animals.)

Mr. J. Lyon Denson	..	..	..	..	1	2
Mr. Leonard Noon	..	..	..	..	1	1
Mr. Chas. Oldham	..	..	..	..	3	3
Mr. J. T. Pownall	..	..	..	..	1	1
The Curator	..	..	..	..	1	3

## MOLLUSCA (Shells.)

Mr. Chas. Oldham	..	..	..	..	15	108
Mr. H. Partin	..	..	..	..	1	2
Mr. B. Tomlin	..	..	..	..	1	1
Mr. A. Newstead	..	..	..	..	1	1

## NESTS AND EGGS.

Mrs. Pitcairn-Campbell	..	..	..	..	1	1
Dr. Herbert Dobie	..	..	..	..	1	4
Mr. H. Nicholson	..	..	..	..	10	16

## PISCES (Fish.)

Mr. Townsend Logan	..	..	..	..	1	3
--------------------	----	----	----	----	---	---

## MISCELLANEOUS.

Dr. Stolterfoth	..	..	..	..	—	17
Mr. Eaton	..	..	..	..	—	9
Mr. G. R. Griffith	..	16,000 Labels for the "Coward" Herbarium				

ROBT. NEWSTEAD, F.E.S.,

APRIL 30TH, 1896.

*Curator.*

## SECTIONAL REPORTS.

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### BOTANICAL.

DURING the past year there have only been two Lectures given in connection with this Section. The opening Lecture was on "Botanical Science in relation to Gardening and Forestry," by MR. E. J. BAILLIE, F.L.S., and, needless to say, was highly interesting and instructive. At this Meeting, MR. G. P. MILN, who has acted so efficiently as Hon. Secretary of the Section for so long, tendered his resignation, as, since his appointment, he had other and more arduous duties given him by the Society.

MR. MILN was most heartily thanked for his services to the Section, and MR. A. E. GOODMAN elected as his successor in office.

The second Lecture was on "Micro-organisms," by MR. F. V. DUTTON, of the University College, Bangor, and was illustrated by microscopic specimens and pure culture growths of Bacteria. The apparatus and *modus operandi* of obtaining pure cultures were also clearly shown and illustrated. Both Lectures were followed by most interesting discussions.

We should especially like to call the attention of members to the magnificent Herbarium bequeathed to the Society by MR. COWARD.

A. E. GOODMAN, *Secretary*.

APRIL 30TH, 1896.

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## ZOOLOGICAL.

A Course of Free Popular Lectures was delivered on alternate Thursday evenings. These Lectures were all beautifully illustrated by lantern slides, most of which were prepared specially by the Curator. The attendances were good, and the Lectures were much appreciated.

The following is a Syllabus of the Lectures:—

1895.

Nov. 7—"Relations of Zoology," by PROF. HERDMAN, D.Sc., F.R.S.

„ 21—"Crustacea: Crabs, Lobsters, and Shrimps," by MR. A. O. WALKER, F.L.S.

Dec. 5—"British and Foreign Scale Insects"

„ 19—"British Birds: Autumn and Winter Migrants"

1896.

Jan. 2—"British Birds: Spring Migrants"

„ 16—"The Recent and Fossil Animals of the British Isles"—with special reference to those found in Cheshire and North Wales

By MR. R. NEWSTEAD,  
F.E.S.

W. F. J. SHEPHEARD,

APRIL 30TH, 1896.

*Secretary.*

## GEOLOGICAL.

IN consequence of the Courses of Lectures given by the Zoological and Photographic Sections during the past Session, there has been only one Meeting of this Section, on December 12th, when The Very Rev. FR. ALPHONSUS, D.D., gave a very interesting Paper on "Primitive Man and his Habitations."

ALFRED W. LUCAS,

APRIL 30TH, 1896.

*Secretary.*

## NATURAL PHILOSOPHY.

A Paper, entitled "The Search for the Philosopher's Stone," was given by MR. FRANCIS FRANCIS, B.Sc., Ph.D., on January 9th.

W. F. LOWE, *Secretary.*

APRIL 30TH, 1896.



## PHOTOGRAPHIC.

By the desire of the Committee of the Natural Science Society, the Photographic Section devoted the Session of 1895-6 to a Course of Free Popular Lectures on Photography. The Lectures were delivered in the Theatre of the Grosvenor Museum, and were well attended. It is hoped that the interest created and the information imparted may lead to a considerable accession to the membership of the Section, and to the promotion of the Photographic Art in the city and neighbourhood. The Section desires to acknowledge its indebtedness to the gentlemen who, at considerable trouble and expense to themselves, willingly gave their services in this behalf.

Following is a list of the Lectures :—

1896.

Feb. 6th.—“Photography: Origin and History; Essentials and Possibilities,” by MR. J. H. SPENCER.

„ 20th.—“The development of the Photographic Image,” by MR. CHARLES A. KOHN, Ph.D., University College, Liverpool.

Mar. 5th.—“The Positive: Printing, with special reference to Bromide Paper and Lantern Slides,” by MR. E. G. BALLARD, A.R.S.M., F.I.C.

„ 19th.—“Micro-Photography: the Apparatus required; the taking of the Negative; and various forms of reproducing both Lantern Slides and Prints,” by DR. STOLTERFOTH, M.A.

April 9th.—“Celestial Photography,” by MR. F. W. LONGBOTTOM.

„ 23rd.—“Composition,” by MR. W. G. SCHRÖDER, Head-Master Chester School of Art.

## STATEMENT OF ACCOUNT.

RECEIPTS.				PAYMENTS.			
	£	s.	d.		£	s.	d.
To Balance .. ..	0	6	2½	By Photographic Papers,			
„ Subscriptions .. ..	0	17	6	39 weeks at 4d. per			
				week .. ..	0	13	0
				Balance .. ..	0	10	8½
	£1	3	8½		£1	3	8½

J. H. SPENCER,

APRIL 30TH, 1896.

*Secretary.*

## LITERATURE.

ON January 23rd, a Paper was read by the Secretary on "Some Obstacles and Inducements to the study of Literature." There has been no other meeting of the Section.

ARTHUR H. FISH,  
*Secretary.*

APRIL 30TH, 1896.

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## ASTRONOMICAL.

WITH the exception of SIR ROBERT BALL'S Lecture, the Astronomical Section has confined itself to private meetings amongst its working members. This has seemed advisable in view of the special Popular Lectures delivered in the Photographic Section.

Observational Astronomy has been somewhat hindered by the unpropitious state of the atmosphere during the winter, whereby the Section has fallen short of new material to lay before its patrons; but as the workers are now fully occupied we are looking forward to greater public usefulness in the coming Session.

SIR ROBERT BALL'S Lecture naturally stimulated interest in Astronomical subjects, and his return visit in the Autumn of this year will doubtless be an additional incentive in this direction.

HERBERT DOBIE, M.D.,  
*Secretary.*

APRIL 30TH, 1896.

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## MICROSCOPICAL.

THE PRESIDENT (DR. STOLTERFOTH) gave an Address on "The Modern Microscope, with notes on the latest forms of Stand, Lenses, and Accessories," on February 13th.

J. D. SIDDALL, *Secretary.*

APRIL 30TH, 1896.

## PAXTON SOCIETY.

THE usual Course of Saturday Evening Meetings have been held during the Session, at which the following Papers were read to the Members, who continue to attend the Meetings in increasing numbers; the attendance this Session shewing a marked improvement upon any previous one:—

1896.

- Jan. 11—"Typical Floras of the Earth," Illustrated by a series of Lantern Pictures of the Vegetation of Great Britain, Canary Islands, Holy Land, Japan, Australia, Mexico, California, &c.; by MR. J. D. SIDDALL.
- " 25—"Fruit and Chrysanthemum Exhibitions," by MR. N. F. BARNES.
- Feb. 1—"Soils and their Treatment," by MR. WATERMAN.
- " 15—"Fruit Culture under glass," by Mr. J. J. CRAVEN.
- Mar. 7—"The Carnation," by MR. J. WYNNE FFOULKES.
- " 21—"Neglected Rural Industries," by MR. J. WYNNE.
- April 4—"The Cultivation of Primulas in Pots," by MR. B. MOORE.
- " 18—"Notes on the Culture of Apricots, Peaches, and Nectarines," by MR. JOHN TAYLOR.

A considerable number of new names have recently been enrolled as Members; now making the combined list of Members and Subscribers up to nearly 250.

A very lively interest continues to be taken by the Members in all branches of Horticulture, as well as in the Annual Fruit and Chrysanthemum Exhibition held under the auspices of this Society. This Exhibition last year far exceeded any previous one, both in the number and quality of exhibits; and it was admitted by competent judges to be the finest exhibition of its kind held in the Provinces.

At this Exhibition the question of a Summer Horticultural Show and Fête was mentioned, and afterwards warmly supported by several influential gentlemen, with the result that a monstre Show and Fête, on the lines of the great yearly gatherings at York and Shrewsbury, will be held on the Roodee on 5th and 6th August next.

N. F. BARNES, *President*.

G. P. MILN, *Secretary*.

APRIL 30TH, 1896.

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NOTE.—The Annual Fruit and Chrysanthemum Exhibition will be held in the Town Hall, Chester, on 17th & 18th November, 1896. Schedules of Prizes and all particulars may be had on application to the Hon. Secretary.

The Hon. Treasurer in account with the Chester Society of Natural Science and Literature,  
for the Year ending April 30th, 1896.

[illegible]

30TH MAY, 1896.—We certify the above Statement to be a correct abstract from the Books and Accounts of the Honorary Treasurer, and that it is duly vouched.

JOHN SIMON, HON. TREASURER.

C. R. ENOCK, C.A.,	} HON. AUDITORS.
BERESFORD ADAMS,	

# **"KINGSLEY MEMORIAL" FUND.**

## **STATEMENT OF ACCOUNT for the Year ended 30th April, 1896.**

Dr.		Cr.	
	£ s. d.		£ s. d.
1895-96.		1895.	
To amount received from Great Western Railway Company—Dividend .. .. .	14 17 3	By Balance .. .. .	.. .. .
		" Printing Prize Lists .. .. .	.. .. .
		" Bank Interest .. .. .	.. .. .
		Balance .. .. .	.. .. .
	<u>£14 17 3</u>		<u>£14 17 3</u>
1896—To Balance in Bank .. .. .	£10 7 8		

19

EDMUND J. BAILLIE,  
HON. TREASURER.

10TH APRIL, 1896—Audited and found correct,  
W. VINCENT.

## PAST PRESIDENTS.

- 1871 to 1875—REV. CHARLES KINGSLEY, CANON OF CHESTER  
*(Founder of the Society.)*  
 1875 „ 1891—PROF. T. MCKENNY HUGHES, F.R.S.  
 1891-2 ALFRED O. WALKER, ESQ., J.P., F.L.S.  
 1892-3 HIS GRACE THE DUKE OF WESTMINSTER, K.G.  
 1893-4 W. M. DOBIE, ESQ., M.D., J.P., F.R.A.S.  
 1894-5 W. M. DOBIE, ESQ., M.D., J.P., F.R.A.S.  
 1895-6 H. STOLTERFOTH, ESQ., M.A., M.D., J.P.

## KINGSLEY MEMORIAL MEDAL,

ESTABLISHED 1877,

“*For having contributed materially to the promotion and advancement of some branch or department of Natural Science.*”—*Vide* Trust Deed.

- 1877—MRS. CHAS. KINGSLEY (In Memoriam)  
 1878—JOHN PRICE, M.A.  
 1879—SIR PHILIP DE MALPAS GREY-EGERTON, BART., F.R.S.  
 1880—PROF. T. MCKENNY HUGHES, F.R.S.  
 1881—D. MACKINTOSH, F.G.S.  
 1882—ISAAC BYERLEY, M.R.C.S., F.L.S.  
 1883—GEORGE W. SHRUBSOLE, F.G.S.  
 1884—ALFRED OSTEN WALKER, F.L.S.  
 1885—JOHN DAVIES SIDDALL.  
 1886—HENRY STOLTERFOTH, M.A., M.D.  
 1887—WILLIAM SHONE, F.G.S.  
 1888—THOMAS SHEPHEARD, F.R.M.S.  
 1889—THOS. RUDDY.  
 1890—REV. CHAS. VOLLEY-DOD, M.A.  
 1891—ROBERT NEWSTEAD, F.E.S.  
 1892—OSMUND W. JEFFS.  
 1893—EDMUND J. BAILLIE, F.L.S.  
 1894—W. MURRAY DOBIE, M.D.

## KINGSLEY MEMORIAL PRIZES,

ESTABLISHED 1877,

“*For the reward, encouragement, and the advancement of the pursuit and study of Natural Science.*”—*Vide* Trust Deed.

- |      |                      |    |                                                                                          |
|------|----------------------|----|------------------------------------------------------------------------------------------|
| 1878 | { HELEN SMITH .....  | £5 | } <i>Herbarium of Flowering Plants.</i>                                                  |
|      | { EDWIN W. OKELL.... | 5  |                                                                                          |
| 1879 | —GEORGE SHRUBSOLE..  | 5  | <i>Carboniferous Fossils.</i>                                                            |
| 1881 | —E. HOPKINS .....    | 5  | <i>Cryptogamous Plants.</i>                                                              |
| 1882 | —GEORGE SHRUBSOLE..  | 10 | <i>Corals of the Mountain Limestone.</i>                                                 |
| 1886 | —ROBERT NEWSTEAD..   | 10 | <i>Hymenoptera.</i>                                                                      |
| 1887 | —JOHN LYON DENSON..  | 5  | <i>Notes on Observations illustrating the Natural Science of the Society's District.</i> |
| 1888 | —LILIAN E. TOMLIN .. | 5  | <i>Coleoptera.</i>                                                                       |
| 1889 | { EDITH C. TOMLIN .. | 5  | } <i>Diptera and Hymenoptera (Terebrantia.)</i>                                          |
|      | { W. E. SHARP .....  | 5  |                                                                                          |
| 1890 | —ALFRED J. NIXON ..  | 10 | <i>Land and Fresh-Water Shells.</i>                                                      |
| 1892 | —W. E. SHARP .....   | 10 | <i>Coleoptera.</i>                                                                       |

## KINGSLEY MEMORIAL PRIZES.

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*Open to any Resident within the Society's District.*

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The following is a list of the Prizes offered by the Committee for competition :—

### 1896.

A PRIZE not exceeding TEN POUNDS for the most valuable COLLECTION OF OBJECTS IN ANY ONE BRANCH OF NATURAL HISTORY made in the Society's District. The amount given will be proportionate to the *quality* of the Collection.

In addition to the above Prize, the Committee have decided that, in order to encourage scientific research, they will make Grants, from year to year, of sums not exceeding TEN POUNDS, out of the Kingsley Memorial Fund, for COLLECTIONS, ESSAYS, or NOTES OF OBSERVATIONS illustrating the NATURAL SCIENCE OF THE SOCIETY'S DISTRICT.

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\*.\* *All Collections must be made in Cheshire or North Wales, or the Seas adjoining thereto, by the persons competing.*

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The Collections, Essays, or Notes of Observations, may be sent in to either of the General Secretaries at any time, and the awards will be made at the Conversazione next succeeding the adjudication.

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**NOTE.**—The Committee have the option of retaining the successful Collections, &c., or any part of them, for the Society.

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*Intending Competitors can obtain all particulars, and the Conditions under which the Prizes are offered, from either of the General Secretaries ; and all Collections, &c., must be sent in to either of them on or before the 1st September in each year.*

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 The Prizes will be awarded at the Annual Conversazione.

# SOCIETIES ASSOCIATED,

WITH WHICH THE SOCIETY EXCHANGES PUBLICATIONS.

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- Academia Nacional de Ciencias de la Republica Argentina,  
 Cordoba.  
 Barrow Naturalists' Field Club.  
 Brighton and Sussex Natural History Society.  
 Bristol Naturalists' Society.  
 British Association (Corresponding Society's Committee.)  
 British Museum (Natural History), Cromwell Road,  
 London, S.W.  
 Burnley Literary and Scientific Club.  
 Cardiff Naturalists' Society.  
 Cassel Society of Natural Science.  
 Dudley and Midland Geological and Scientific Society and  
 Field Club.  
 Epping Forest and County of Essex Naturalists' Field Club.  
 Glasgow Natural History Society.  
 Hertfordshire Natural History Society and Field Club.  
 Huddersfield Naturalists' Society.  
 La Société d'Histoire Naturelle de St. Wladimir á Kiew,  
 Russie.  
 Leeds Naturalists' Club.  
 Liverpool Geological Society.  
 Liverpool Geological Association.  
 Liverpool Literary and Philosophical Society.  
 Liverpool Microscopical Society.  
 Liverpool Naturalists' Field Club.  
 Liverpool Science Students' Association.  
 Manchester Field Naturalists' Society.  
 Manchester Geological Society.  
 Manchester Microscopical Society.  
 Menai Society of Natural Science.  
 Northampton Natural History and Field Club.  
 North Staffordshire Naturalists' Field Club and Archæological  
 Society.  
 Norwich Science Gossip Club.  
 Nottingham Naturalists' Society.  
 Patent Office Library, 25, Southampton Buildings, Chancery  
 Lane, London, W.C.  
 Postal Microscopical Society.  
 Quekett Microscopical Society.  
 Smithsonian Institution, Washington, D.C.  
 The Missouri Botanical Garden, St. Louis, U.S.A.  
 United States Geological Survey.  
 Vatican Observatory, Rome.  
 Vienna Natural History Museum.  
 Wigan Literary and Scientific Society.  
 Yorkshire Naturalists' Union, Leeds.



## HONORARY MEMBERS.

*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

---

*Ball, Sir Robert S., F.R.S. ....	Observatory, Cambridge
Barrett, Chas. G., Esq., F.E.S. ....	39, Linden Grove, Nunhead, London, S.E.
*Carruthers, W., Esq., F.R.S. ....	The British Museum, South Ken- sington, London, S.W.
*Dawkins, Prof. W. Boyd, F.R.S. ....	Woodhurst, Wilmslow road, Fallow- field, Manchester
*Grindon, Leo H., Esq. ....	20, Cecil street, Greenheys, Manchester
*Hicks, H., Esq., F.R.S. ....	Hendon Grove, Hendon, London, N.W.
Hooker, Sir J. D., K.C.S.I., F.R.S. ....	The Camp, Sunningdale, Ascot
*Hughes, Prof. T. McKenny, F.R.S. ....	Trinity College, Cambridge
*Hull, Prof., F.R.S. ....	20, Arundel Gardens, London, W.
*Judd, Prof. J. W., F.R.S. ....	Royal College of Science, South Ken- sington, London, S.W.
*Lubbock, Sir John, Bart., M.P., F.R.S. ....	Down, Farnborough, Kent
*Morton, G. H., Esq., F.G.S. ....	209, Edge Lane, Liverpool, E.
Norman, Rev. Canon, F.R.S. ....	Burnmoor Rectory, Fence Houses, Durham
Oxford, The Lord Bishop of.....	The Palace, Cuddesdon, Oxford
*Rae, E., Esq., F.S.A. ....	Court Lodge, Birkenhead
Renard, The Abbé .....	Curator of the Royal Museum of Natural History, Brussels
Roscoe, Sir Henry E., F.R.S. ....	10, Bramham Gardens, London, S.W.
*Rudler, F. W., Esq., F.G.S. ....	Museum of Practical Geology, Jer- myn street, London, S.W.
Sanderson, Dr. Burden, F.R.S. ....	64, Banbury road, Oxford
*Sorby, Dr., F.R.S. ....	Broomfield, Sheffield
*Vize, Rev. J. E., M.A. ....	Forden Vicarage, Welshpool


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## CORRESPONDING MEMBERS.


Askew, Mr. Jas. H. ....	Bidston Lighthouse, Birkenhead
Brodrick, The Hon. Mrs. Lawrence .....	Coed Coch, Abergel
Coward, Mr. T. A. ....	Higher Downs, Bowdon
Griffith, Mr. J. E., F.L.S., F.R.A.S. ....	Vronheulog, Upper Bangor, N.W.
Joachim, Mr. Geo. ....	Dunedin, Otago, New Zealand
Nicholson, Mr. A. C., F.G.S. ....	Bronderry, Oswestry
Nixon, Mr. A. J. ....	Birdham School, Chichester
Oldham, Mr. C. ....	Romiley, near Stockport
*Reade, Mr. Oswald A. ....	
*Rowston, Mr. R. ....	Kingsley, Alton, Hants
*Ruddy, Mr. Thos. ....	Palé, Corwen
Russell, Dr. ....	Colwyn Bay
Tomlin, Mr. J. R. le B., B.A. ....	Thorpe Villa, Liverpool Road
Walker, Mr. Fred. ....	Heywood, Tenby
*Wilkins, Mr. T. S. ....	Uttoxeter
Williams, Mr. G. J., F.G.S. ....	H.M. Inspector of Mines, Bangor

## NOTICE.

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 *THE ANNUAL SUBSCRIPTIONS are due on the 1st of May in each year. Members who have not paid for the present year are respectfully requested to forward the amount (Five Shillings) to the Hon. Treasurer, Mr. JOHN SIMON, Chemist, 4, Eastgate Row.*

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 *To prevent a recurrence of a frequent misunderstanding, Members are reminded that their Names are retained on the Society's Books, and their Subscriptions considered due, until notice has been given to the contrary according to Rule 8.*

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## LIST OF MEMBERS.

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*Those marked (\*) have read or contributed Papers at the Society's Meetings.*

---

Acton, Mrs. ....	Grove road, Wrexham
Adams, Mr. Beresford .....	Shirley House, Liverpool road
Adams, Mr. Geo. F. ....	Ashbourne, Victoria road
Ainsworth, Miss F. ....	4 Nicholas street
*Allen, Mr. Percy K. ....	22 Lorne street
Appleton, Mr. John .....	Bouverie street
Archer, Mr. W. E. ....	5 Lightfoot street
*Arkle, Mr. J. ....	Diocesan School, George street
Arnold, Miss Margaret .....	Cheyney road
Atkinson, Rev. Bernard N., M.A. ....	Kelsall, near Chester
Bailey, Mr. H. Grant .....	Crypt Chambers
*Baillie, Mr. E. J., F.L.S. ....	Woodbine, Upton
Baillie, Mrs. ....	" "
*Bairstow, Mr. J., F.C.S. ....	Burley, Queen's park
Baker, Miss .....	2 Grey Friars
*Ballard, Mr. E. G., A.R.S.M. ..	Newton, Chester
Ballard, Mrs. ....	" "
Barber, Mr. John .....	19 Eastgate street
Barbour, Mr. Geo, J.P. ....	Bolesworth Castle, Tattenhall
Barbour, Mrs. ....	" " "
Barker, Mr. A. ....	6 Abbey street
Barnes, Rev. F., B.A. ....	Hope villa, Raymond street
Barraclough, Mr. E. ....	9 Abbot's nook, Liverpool road
Barraclough, Mrs. ....	" "
Barrow, Miss .....	The Infirmary





- Dodd, Mr. W. .... 143 St. Anne street  
 Dodd, Mr. John ..... 60 Cambrian crescent  
 Dodds, Miss M. Evelyn ..... Thornleigh, Hough green  
 Dowdall, Lieut.-Col. A. P. .... Curzon park  
 Dowdall, Miss A. .... " "  
 Duckworth, Mr. Henry ..... Llyntio, Rossett  
 Duckworth, Mr. Winfryd Lawrence H., M.A. ... Jesus' College, Cambridge  
 Duff, Dr. .... 5 Abbey street  
 Dutton, Mr. George, J.P. .... Curzon house  
 Dutton, Mrs. .... " "  
 Dutton, Mr. H. B. .... Freshfield, 27 Curzon park  
 Dutton, Mrs. .... " "  
 \*Dutton, Mr. F. V. .... University College of North Wales, Bangor  
 Dutton, Miss M. .... 8 Hough green  
 Dye, Mr. Alfred B. .... 72 Bouverie street
- Edwards, Mr. J. .... 74 Foregate street  
 Edwardes, Miss Kate ..... 36 Sealand road  
 Eggers, Miss ..... 4 Hough green  
 Elliott, Dr. John, B.S., B.Sc. .... White Friars lodge  
 Elliott, Miss ..... " "  
 Enoch, Mr. C. R. .... 15 Hough green  
 Enoch, Mrs. .... " "  
 Enoch, Miss ..... " "  
 Evans-Lloyd, Col., J.P. .... Stanley house  
 \*Evans, Mr. F. .... The Eastgate  
 Evans, Miss ..... The Elms, Hawarden  
 Evans, Miss J. E. .... The Limes, 5 Lumley road  
 Ewing, Mr. C. A. .... 3 Brookside villas, Flookersbrook
- Farmer, Mr. Richard ..... 36 Liverpool road  
 Farrimond, Mr. F. T. .... Sunnyside, Boughton  
 Ferguson, Mr. W. .... The Cairn, Liverpool road  
 Ffoulkes, His Honor Judge Wynne, M.A. ... Old Northgate house  
 Ffoulkes, Mr. Thomas B., Junr. ... 8 Burlington road, Ipswich  
 Ffoulkes, Mr. Geo. B. .... 15 Chichester street  
 Finchett-Maddock, Mrs. H. .... Cae Gwyn, Carnarvon  
 Firth, Mr. N. C. .... 125 Foregate street  
 Fish, Mrs. .... Arnold House, Parkgate road  
 \*Fish, Rev. A. H., B.A., B.Sc. ... " " "  
 Fleet, Mr. H. .... 35 Tarvin road  
 \*Fletcher, Mr. P. H. .... Woodbrae, Curzon park  
 Fletcher, Miss ..... " "  
 Fluitt, Miss ..... 42 Upper Northgate street  
 Footner, Mr. H. .... 4 King's buildings  
 Footner, Mrs. .... " "  
 Fordham, Miss ..... 19 Raymond street  
 \*Francis, Mr. F. E. .... Kilmorey park, Hoole  
 Frater, Mr. Jas. .... Old Bank House  
 Frazer, Miss ..... King's buildings  
 Frost, Sir Thomas G., J.P. .... Redcliff, Queen's park  
 Frost, Lady ..... " "  
 Frost, Mr. J. G., J.P. .... Estyn, Sandy lane  
 Frost, Mr. J. M., J.P. .... Dee Lodge  
 Frost, Mrs. .... " "  
 Frost, Mr. T. Gibbons ..... Richmond hill  
 Frost, Mrs. .... " "

Gardner, Mrs. W. A. ....	Redland House, Hough green
Gardner, Miss .....	" " " "
Gardner, Mr. Stanley R. ....	" " " "
Gardner, Mr. E. ....	9 Abbey street
Garland, Mr. Jas. ....	Eaton, Chester
Garnett, Mr. W. ....	Strathallan, Mickle Trafford
Garnett, Mrs. ....	The Rectory, Christleton
Gibson, Mr. J. M. ....	Buckley, <i>via</i> Chester
Gibson, Miss .....	5 Crane street
Gibson, Mr. John .....	South view, Eaton road
Gilbert, Mr. Leonard, J.P. ....	Egerton villa, Liverpool road
Gilbert, Mr. Egerton .....	132 Overleigh road, Handbridge
Gilbert, Mrs. ....	" " " "
Giles, Mr. E. S. ....	Gowymede, "Vicar's Cross"
Giles, Mrs. ....	" " " "
Glascodyne, Miss .....	11 Cambrian view
Gofton, Rev. J. E. ....	53 Bouverie street
Golder, Mr. S. ....	41 Liverpool road
Goodman, Mr. A. E. ....	Fern Bank, Filkin's lane
Goodhart, Mrs. E. S. ....	96 Watgate flags
*Granger, Mr. F. M., M.R.C.S., L.R.C.P. ....	18 Nicholas street
Grantham, Rev. H. ....	S. Mary's Rectory
Gray, Miss .....	4 Lorne street
Greenhouse, Mr. Chas. ....	1 Eversley park
Griffith, Mr. G. R. ....	30 Hough green
Griffith, Mrs. ....	" " " "
Griffith, Miss .....	" " " "
Griffith, Miss O. Collette .....	" " " "
Griffiths, Mr. Jno. ....	Hamilton street, Hoole
Griffiths, Mrs. ....	" " " "
Griffiths, Miss .....	2, Holly Bank, Queen's park
Griffiths, Mr. John .....	" " " "
*Griffiths, Rev. T. Turner, M.A. ....	" " " "
Gunton, Miss .....	Rimmersfield
Haddacks, Mr. C. R. ....	6 Ash grove
*Hall, Mr. J. H. A. ....	Montrose House, Hough green
Hall, Mrs. ....	" " " "
Hall, Miss Cecile .....	" " " "
Hall, Miss Josephine .....	" " " "
Hamel, Miss .....	Staunton House, near Coleford, Gloucester
Hamilton, Mr. A., M.R.C.S. ....	16 White friars
Hamilton, Mrs. ....	" " " "
Hampson, Mr. R. ....	Halkyn road, Flookersbrook
Hardy, Mr. J. E. ....	The Blue Coat School, The Northgate
Harnaman, Mr. J. M. ....	Alvanley, Warrington
Harris, Mr. T. ....	Dee hills park
Harris, Mrs. ....	" " " "
Harrison, Miss .....	13 Chichester street
Harrison, Mr. N. ....	Highfield, Curzon park
Harrison, Mrs. ....	" " " "
Haswell, Mr. G. H. ....	Queen's park
Henderson, Mr. J. E. ....	19 Pathway, Queen's park
Henshaw, Mr. T. ....	The Hollies, Liverpool road
Henshaw, Miss Edith E. ....	" " " "
Henshaw, Miss Florence M. ....	" " " "
Henshaw, Mr. T. A. ....	27 Halkyn road, Hoole

Heppel, Miss .....	8 Hough green
Heppel, Miss M. E. ....	" "
Hewitt, Mr. David L. ....	Abbey House, Northgate street
Hickman, Mr. F. F. ....	8 Northgate street
Hickman, Miss .....	17 The Groves
Higgins, Miss Eva .....	The Manor, Overleigh
Higgins, Miss Millie .....	" "
Hignett, Mrs. ....	14 Hough green
Hignett, Mr. A. H. ....	" "
Hignett, Mrs. T. H. ....	18 Hough Green
Hincks, Mr. H. T. ....	61 Northgate street
Hobday, Mr. J. ....	Alexandra Villa, Liverpool road
Hobday, Mr. E. ..	" "
Hobday, Mr. Jas., B.A. ....	22 The Groves
*Hodges, Mr. W. ....	31 Hough green
Hodges, Mr. T. R. ....	" "
Hodges, Miss A. G. ....	" "
Hodkinson, Mr. E. ....	35 Pepper street
Holland, Miss A. E. ....	2 Eversley park
Holland Miss S. L. ....	" "
Holland, Miss A. M. ....	" "
Holme, Rev. Canon, M.A. ....	Great Budworth, Northwich
Holmes, Mr. J. G. ....	Belmont, Curzon park
Hopkins, Mrs. ....	32 Queen street
Hopkins, Mr. T., M.B. ....	60 Watergate street
Hopkins, Mrs. ....	" "
Hopley, Mr. J. H. ....	Chemist, Northgate street
Hostage, Mr. George B. ....	28 Eaton road
Hostage, Mrs. ....	" "
Hostage, Miss .....	22 Eaton road
Howson, Rev. J. F., M.A. ....	Egerton House, Upper Northgate street
Howson, Miss .....	" "
Howson, Miss M .....	" "
Howson, Rev. G. J., M.A. ....	The Vicarage, Crewe
Hudson, Mrs. R. S. ....	Bache Hall, Chester
Hughes, Mrs. McKenny .....	18 Hills road, Cambridge
Hughes, Mrs. ....	Uffington House, Dee Hills
Hughes, Mr. John .....	47 Victoria street, Westminster, London
Huke, Mr. J. W. ....	Foregate street
Humberston, Miss .....	Newton Hall, Chester
Humphreys, Mr. E. Noel . ....	9 and 11 Old Bank Buildings
Hunter, Mr. Jas. ....	Maisonnette, Hough Green
Hunter, Mr. C. P. ....	" "
Hutchings, Mr. J. H. ....	47 White friars
Jackson, Mr. Roger, J.P. ....	26 Hough green
Jackson, Miss .....	" "
Jacob, Rev. Joseph, M.A. ....	Whitewell Rectory, Whitchurch (Salop)
Jayne, Mr. Roland G. ....	The Palace, Dee side
Jayne, Mr. K. ....	" "
*Jebb, Mr. G. R., C.E. ....	Fairyfield, Great Bar, Birmingham
*Jeffs, Mr. O. W. ....	164 Falkner street, Liverpool
Jephcott, Mr. Charles, B.A. ....	13 Lorne Street (North)
Johnson, Major .....	9 Upper Northgate street
Johnson, Mrs. ....	11 Bertram road, Sefton park, Liverpool
Johnson, Mr. ....	St. Paul's School, Boughton
*Johnson, Mr. M., L.D.S.I. ....	9 York villas, Lorne street
Johnson, Mr. Thomas C. ....	Clayton House, Duke street

- Jones, Miss Maggie .. .. . 1 King's buildings  
 Jones, Miss .. .. . The Northgate  
 Jones, Mrs. Edward .. .. . 1 Derby place, Hoole  
 Jones, Mr. Jno. .... 5 Lorne street (North)  
 Jones, Mr. F. M. .... " "  
 Jones, Mr. J. M. .... Roodee Works  
 Joyce, Mrs. .... Ferndale, Liverpool road  
  
 Keith, Dr. N. S., M.I.E.E. .... Westminster Hotel, Chester  
 Kelham, Mr. Augustus .... 3 Eversley park, Liverpool road  
 Kelsall, Miss H. .... Abbot's court, Liverpool road  
 Kemp, Mr. George .... 59 Bridge street  
 Kenyon, Mr. G. A., M.B. .... Flookersbrook  
 Kenyon, Mrs. .... "  
 King, Dr. H. W. .... 26 Nicholas street  
 King, Mrs. .... "  
 \*Kingsley, Miss .. .. . 10 Walton place, Hans place, London, S.W.  
 Knowles, Mr. E. R. .... Grosvenor street  
 Kynnersley, Mr. E. M. Sneyd .. Boughton lodge  
  
 Lacy, Mrs. .... Moore Holme, Neston  
 Lamont, Mr. A. .... 3 City Walls (West)  
 Lamont, Mr. A., Junr. .... " "  
 Lamont, Miss .. .. . " "  
 Lanceley, Mr. R. H. .... Victoria road  
 Latham, Mr. J. S. .... Green bank, Liverpool road  
 \*Lawrence, Dr. A. .... The Asylum, Chester  
 Lee, Mrs. .... York cottage, 18 Garden lane  
 Lees, Mr. W., M.R.C.S. .... The Bars  
 Leete, Mrs. .... Vicarage road, Hoole  
 Lewis, Rev. J. S., M.A. .... Guilsfield Vicarage, Welshpool  
 Lipsham, Mr. F. .... 76 Foregate street  
 Littler, Miss .. .. . 17 Eaton road  
 Lloyd, His Honour Sir Horatio .. Stanley place  
 Lloyd, Lady .. .. . "  
 Lloyd, Mrs. E. .... Abbot's mount, Liverpool road  
 Lloyd, Miss M. E. .... 13 Chichester street  
 Lloyd, Mr. R. .... Bishop Graham's School, Chester  
 Lloyd, Miss E. .... 56, Princess street  
 Lockett, Mr. H. .... British Schools, Victoria road  
 \*Lockwood, Mr. T. M., F.R.I.B.A. .. 80 Foregate street  
 Lockwood, Mrs. .... 7 Queen's park  
 Lomax, Mr. F. T. .... 12 Bold terrace  
 Long, Rev. Francis, M.A. .... 14 City Walls  
 Long Mrs. .... 2 Lumley road  
 \*Longbottom, Mr. F. W. .... Haslemere, Queen's park  
 Longbottom, Mrs. .... " "  
 Lowe, Mr. G. B. .... 25 Hough green  
 Lowe, Miss C. H. .... "  
 \*Lowe, Mr. W. F., A.R.S.M., } 9 Hough green  
     F.I.C., F.C.S. }  
 Lowe, Mrs. .... " "  
 Lowe, Mr. Jas. F., B.A. .... Dee banks  
 \*Lucas, Mr. A. W., F.G.S. .... 7 Victoria pathway, Queen's park  
 Lyon, Rev. J., M.A. .... 7 Grey friars  
  
 \*Macdonald, Mr. G. E. .... 3 Abbey square  
 \*Macdonald, Miss Eva .. .. . " "



- |                                       |     |                                                             |
|---------------------------------------|-----|-------------------------------------------------------------|
| Maddocks, Mr. Frank                   | 10  | Pepper street                                               |
| Manley, Mr. H.                        |     | Aston, Nantwich                                             |
| *Manning, Mr. J. B.                   |     | The Governor's House, H.M. Prison,<br>Pentonville, London   |
| Manning, Miss Edith                   | 18  | Upper Northgate street                                      |
| Mann, Mr. A., M.B.                    |     | Newgate street                                              |
| Mann, Mrs.                            |     | " "                                                         |
| Marchant, Mr. W. H.                   |     | "Whitefriars" house                                         |
| Marsden, Miss                         | 6   | Grosvenor park road                                         |
| Mason, Mr. F. B.                      | 67  | Parkgate road                                               |
| Massie, Admiral                       | 3   | Stanley place                                               |
| McEwen, Mrs.                          | 7   | Alexandra terrace, Hoole road                               |
| McKindlay, Mr. Andrew                 |     | Aldford, Chester                                            |
| *McMichael, Mr. J. A., B.A., B.Sc.    | 24  | Bouverie street                                             |
| McMichael, Mrs.                       |     | " "                                                         |
| Meeson, Mr. W. H.                     | 21  | Bold square                                                 |
| Middleton, Mr. G.                     | 1   | Sandown terrace                                             |
| Middleton, Mrs.                       |     | " "                                                         |
| Millington, Mr. C.                    |     | Victoria house, Victoria road                               |
| Mills, Mrs.                           |     | Derby House, Hoole                                          |
| *Miln, Mr. G. P.                      |     | Milnholme, Brook lane                                       |
| Miln, Mrs.                            |     | " "                                                         |
| Milne, Mr. S.                         | 8,  | Ash grove, Wrexham road                                     |
| Minshull, Mr. E.                      |     | The Northgate                                               |
| Minshull, Miss                        |     | " "                                                         |
| *Mitchell, Rev. J. C., B.D., F.R.A.S. |     | Rutland Cottage, Parkgate road                              |
| Montgomery, Rev. J. K.                |     | Abbot's villas, Liverpool road                              |
| Montgomery, Mr. John K., B.A., B.Sc.  | 5   | Meyrick road, Stafford                                      |
| Moreton, Mr. J. E., F.R.C.S.          |     | Tarvin                                                      |
| Moreton, Mrs.                         |     | " "                                                         |
| Moreton, Mr. T. W. E., M.R.C.S.       |     | " "                                                         |
| Morgan, Rev. J. B.                    | 2   | Exton park                                                  |
| Morphy, Mr. H.                        | 1   | South view, Eaton road                                      |
| *Morris, The Rev. Canon, D.D.         |     | { St. Gabriel's Vicarage, 4 Warwick<br>square, London, S.W. |
| Morris, Mrs.                          | 12  | Stanley place                                               |
| Morrison, Mrs.                        | 16  | Eaton road                                                  |
| Mossford, Mr. John                    |     | The Rhigi, Tattenhall                                       |
| Mostyn, Sir Pyers W., Bart.           |     | Talacre, Holywell                                           |
| Murgatroyd, Mr.                       | 21  | Cambrian crescent                                           |
| Musgrave, Mrs.                        | 45  | White friars                                                |
| Musgrave, Miss Constance              |     | " "                                                         |
| *Newstead, Mr. R., F.E.S.             |     | The Grosvenor Museum                                        |
| Nicholls, Mr. W. A. M.                | 38, | Eaton road                                                  |
| Nicholls, Mr. G. F.                   | 12  | Chichester street                                           |
| Nicholson, Mr. J. M.                  |     | Liverpool road                                              |
| Nicholson, Mr. R. Leonard St. Clair.  |     | " "                                                         |
| Noyes, Mr. H. J.                      | 1   | Cheyney villas                                              |
| *Okell, Mr. E. W.                     | 22  | Northgate street                                            |
| Okell, Mr. P. H.                      | 1   | Northgate street                                            |
| *Okell, Miss M. H.                    |     | Woodville, Abbot's park                                     |
| Oldfield, Mrs.                        | 68  | Northgate street                                            |
| Oldfield, Miss                        |     | Bryn Clwyd, St. Asaph                                       |
| Oldmeadow, Mr. Geo. E.                | 65  | Parkgate road                                               |
| Orton, Mr. R. O., J.P.                |     | Tattenhall, Chester                                         |
| Parkes, Mr. A.                        |     | Bridge street row                                           |
| Parkes, Mrs.                          |     | " "                                                         |

Parry, Mr. Gilbert	Farndon hall, Chester
*Parry, Mr. T. S., M.B.	10 Upper Northgate street
Parry, Mr. Morris	21 Victoria road
Partington, Mr. John T.	Watford house, Victoria road
Paton, Rev. F. H. V., B.A.	74 Bouverie street
Payne, Miss	4 Abbey green
Payne, Miss A.	" "
Phillipson, Mr. J.	23 Liverpool road
Phillipson, Mr. H. G.	" "
Porter, Mrs.	Crowthorne, Childer Thornton, Chester
Potts, Mr. A., M.A.,	Diocesan Training College
Powell, Mr. E.	54 Northgate street
Preston, Mr. F. M.	Abbot's grange, Liverpool road
*Price, Mr. Walmsley	26 Watgate row
Price, Miss	53 Rutland terrace, Parkgate road
Prichard, Mr. Geo.	9 The Groves
Prichard, Miss	" "
Pritchard, Mr. W.	17 Watgate row
Pye, Mr. James	Wilton House, Brook lane
Pye, Mrs.	" "
Pye, Mr. Fred. A.	Saughall, Chester
*Pye, Mr. T. E., Le Directeur en Gaz.	Bastia, Corsica

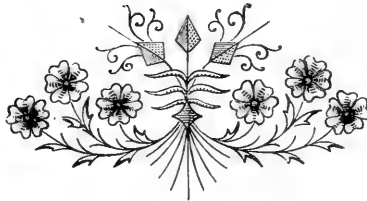
Raingill, Mrs.	Windsor lodge, Mickle Trafford
Rayner, Miss	Ash grove, Wrexham road
Richardson, Mr. A.	Bridge street row
Roberts, Miss	Bank cottage, Neston
Roberts, Miss M.	8 Nicholas street
Roberts, Dr., J.P.	8 Abbey square
Roberts, Mr. Hugh	Crypt Chambers
Roberts, Miss Johnson	7 Lumley road, Liverpool road
Roberts, Miss	Overleigh, Hough green
Roberts, Mr. B. C., J.P.	Oakfield, Upton
Roberts, Mr. W. F.	Well house, Chester
Roberts, Mr. J. Sheriff	Curzon park
Roberts, Mrs.	" "
Rogers, Mr. James	The Cross
Rogers, Mr. W.	Watgate flags
Rogerson, Mr. G. H.	4 Nicholas street
Royle, Mrs.	Hough Green House
Ryde-Jones, Mr. T.	Union Bank House, The Bars

Sandbach, Mr. S. H., J.P.	Cherry hill, Malpas
*Sandford, Mrs. Henry	Queen's School
Sant, Mr. T.	Frodsham
*Schröder, Mr. W. G.	17 Eaton road
Scotlând, Mrs.	Vicar's lane
Scott, Mr. John	19 Chichester street
Scott, Rev. S. Cooper, M.A.	St. John's Rectory
Segar, Mr. F., L.D.S.E.	White Friars House
Sharpe, Mr. F. W.	7 Abbey square
Sharpe, Mr. Alan	" "
*Shepherd, Mr. T., F.R.M.S.	Kingsley, Bournemouth
Shepherd, Mr. W. F. J.	Bridge street row
Shepherd, Mr. J. D.	National Provincial Bank, Wrexham

- \*Shone, Mr. W., F G.S. .... Upton park  
 Shone, Mrs. .... " "  
 Shone, Mr. Wm., Junr. .... " "  
 Shrubsole, Mr. Alfred .... Town Hall square  
 \*Siddall, Mr. J. D. .... 19 Eaton road  
 Siddall, Mrs. .... " "  
 Siddall, Miss Annie .... " "  
 Siddall, Miss G. M. .... " "  
 Siddall, Mr. W. .... " "  
 Simon, Mr. John .... 4 Eastgate row  
 Simpson, Mr. Ricardo .... Elsinore, Curzon park  
 Sitwell, Mrs. .... Eaton road  
 Smith, Mr. T., J.P. .... Blacon Point, Chester  
 Smith, Mrs. S. .... 16 Nicholas street  
 Smith, Miss H. .... 3 Chichester street  
 Smith, Mr. John .... Market square  
 Smith, Miss .... 25 Chester street, Saltney  
 Smith, Mr. R. J. .... Aldford, Chester  
 Smith, Mr. T. .... 73 Bouverie street  
 Smith, Mr. W. .... Glendale, Kilmorey park  
 Smith, Mrs. .... " "  
 Smyth, Miss Lyle .... Barrowmore Hall, near Chester  
 Sparling, Rev. W., M.A. .... Upton Vicarage, Chester  
 \*Spencer, Mr. J. H. .... 36 Bridge street  
 Stanyer, Mr. William .... 30 Newgate street  
 Stewart, Mrs. .... 13 Stanley place  
 \*Stolterfoth, Dr., M.A., J.P. .... 1 Grey friars  
 Stolterfoth, Mrs. .... " "  
 Stolterfoth, Miss .... " "  
 Stonex, Rev. F. Tilney, M.A. .. Abbot's Grange, Liverpool road  
 Storr, Mr. F. .... 21 The Groves  
 Storr, Miss. .... " "  
 Storrar, Mr. Jas., M.R.C.V.S. .. 4 Park street  
 Storrar, Miss Jessie .... " "  
 Storrar, Mr. Andrew .... Bryntirion, Chichester street  
 Sumner, Mrs. A. .... South view, Eaton road  
  
 Tatlock, Rev. Canon` .... 21 St. John street  
 Taylor, Mr. Hy. Enfield, J.P., M.Inst. C.E., Grey friars  
 Taylor, Mr. J., F.R.C.S., J.P. .. Haygarth House, Newgate street  
 Taylor, Mr. J. G. .... " "  
 Taylor, Miss .... " "  
 Taylor, Mr. John .... Hoole Hall Gardens  
 Taylor, Mr. A. G. .... 6A Woodsome rd., Highgate rd., London, N.W.  
 Taylor, Mr. J. Burnside .... 4 Hough green  
 Taylor, Mr. Hy. F.S.A. .... 12 Curzon park  
 Taylor, Mrs. J. W. .... 8 Ash grove  
 Taylor, Mrs. G. .... 11 Bold square  
 Thomas, Mr. .... 18 Pepper street  
 Thomas, Dr. E. J. Haynes .... " "  
 Thomas, Miss .... " "  
 Thomas, Miss Constance .... " "  
 Thomas, Miss F. M. .... " "  
 Thomas, Mr. Maurice .... 27A Tarvin road  
 Thomas, Mr. Felix .... Tarvin road  
 Thomas, Mr. E. H. .... The Industrial Schools, Boughton  
 Thomas, Mr. J. H. .... Chemist, Watergate street  
 Thomas, Mr. W. C. .... 58 Northgate street

Thompson, Mr. Hy. ....	Brightholme, Curzon park
Thompson, Mrs. ....	" "
Thomson, Miss I. ....	Cambrian view "
Thornthwaite, Miss E. M. ....	c/o Mrs. Hincks, Northgate street
Tilston, Miss ....	1 King's buildings
Tinkler, Mr. G. ....	45 Nicholas street
Tomkinson, Mr. Jas., J.P. ....	Willington Hall, Chester
Tomlin, Mrs. ....	Thorpe villa, Liverpool road
Tomlin, Miss Lilian Ethel ....	" "
Tomlin, Miss Edith Clarabel ....	" "
Townshend, Mr. C. W., J.P. ....	Trevallyn, Wrexham
Trelawny, Mr. H. D., J.P. ....	Shotwick park, Chester
Trelawny, The Hon. Mrs. ....	" "
Tyrer, Mrs Alfred ....	Plas Newton, Chester
*Vincent, Mr. W. ....	2 Eaton road
Vincent, Mrs. ....	" "
Wakefield, Mr. Robert ....	Newton Hall Gardens
Wakefield, Mr. T. ....	3 Lorne street
Wakefield, Miss A. E. ....	" "
*Walker, Mr. A. O., J.P., F.L.S. ....	Nant-y-Glyn, Colwyn Bay
Walker, Mrs. ....	" "
Walker, Miss. ....	23 Liverpool road
Ward, Miss ....	18 Eaton road
Watts, Mr. C. T. F. ....	Grosvenor Museum
Way, Mr. N. A. E. ....	1 Stanley street
Weaver, Mr. W. M. ....	Westminster buildings
Weaver, Mr. Thos. ....	Fern Cottage, Christleton
*Webster, Mr. G. Watmough, F.C.S. ....	Brook lodge, Brook lane
Webster, Mrs. ....	" "
Webster, Mr. Sirrell M. ....	" "
Webster, Miss Amy B. ....	30 St. Martin's-in the-fields
Wells, Mr. E. ....	Eccleston, Chester
Wells, Mr. George J. J., F.I.C., F.C.S. ....	47 Parkgate road
White, Miss E. ....	13 Abbey street
Whiteley, Mr. F. ....	Helsby, Warrington
Wigg, Mr. Charles ....	Hoole bank, Chester
Wigg, Mr. Walter J. ....	Lea Hurst, Hoole road
Wilbraham, Miss E. ....	5 King's buildings
Wilbraham, Miss F. ....	" "
Wilkinson, Mr. R. ....	49 Cambrian view
Wilkinson, Miss Jane ....	" "
Williams, Mr J. E. ....	Westminster buildings
Williams, Mr John ....	Aber cottage, Saltney
Williams, Mr. A. C. ....	15 Newgate street
Williams, Rev. J. R., M.A. ....	Pulford Rectory, Wrexham
Williams, Miss ....	72 Tarvin road
Williams, Mr. R. J. ....	6 Eaton road
Williams, Miss Aldersey ....	96 Watergate flags
Williams, Mr. James ....	Egerton house, Hoole road
Wiseman, Mr. C. ....	The Poplars, Dee banks
Wiseman, Mr. Henry ....	" "
Wood, Mr. R. Stewart ....	Eccleston, Chester
Wood, Miss ....	28 Queen street
Wood, Mr. T. H. ....	23 Grosvenor street
Wood, Mrs. A. ....	c/o Miss Tilston, 1 King's buildings
Woodfin, Miss ....	26 Lorne street

Woodhouse, Mr. John.....	7 Raymond street
Wrench, Miss .....	Green lane, Tarvin road
Wright, Mr. A. J. ....	11 Bridge street row
Wright, Mrs.....	"
•Wynne, Mr. Geo. F. ....	Plas Gwyn, Minera, Wrexham
Wynne, Mr. J. H. ....	41A Tarvin road
Wynne, Mr. John.....	Waverton, Chester
Yeadon, Mr. Thos. ....	28 St. Anne street




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